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UNIVERSITY OF WYOMING COOPERATIVE RESEARCH REPORT
TO THE BUREAU OF LAND MANAGEMENT

ANNUAL PROGRESS REPORT

1977 RESULTS

PHENOLOGY AND PRODUCTION STUDIES ON
SEMI-ARID SHRUB TYPES

SUBMITTED BY WYOMING AGRICULTURAL EXPERIMENT STATION

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PHENOLOGY AND PRODUCTION

SEMI-ARID SHRUB TYPES¹

1977 ANNUAL PROGRESS REPORT

BY

H. G. Fisser, L. W. Young, J. E. Orpet, and N. E. Hargis²

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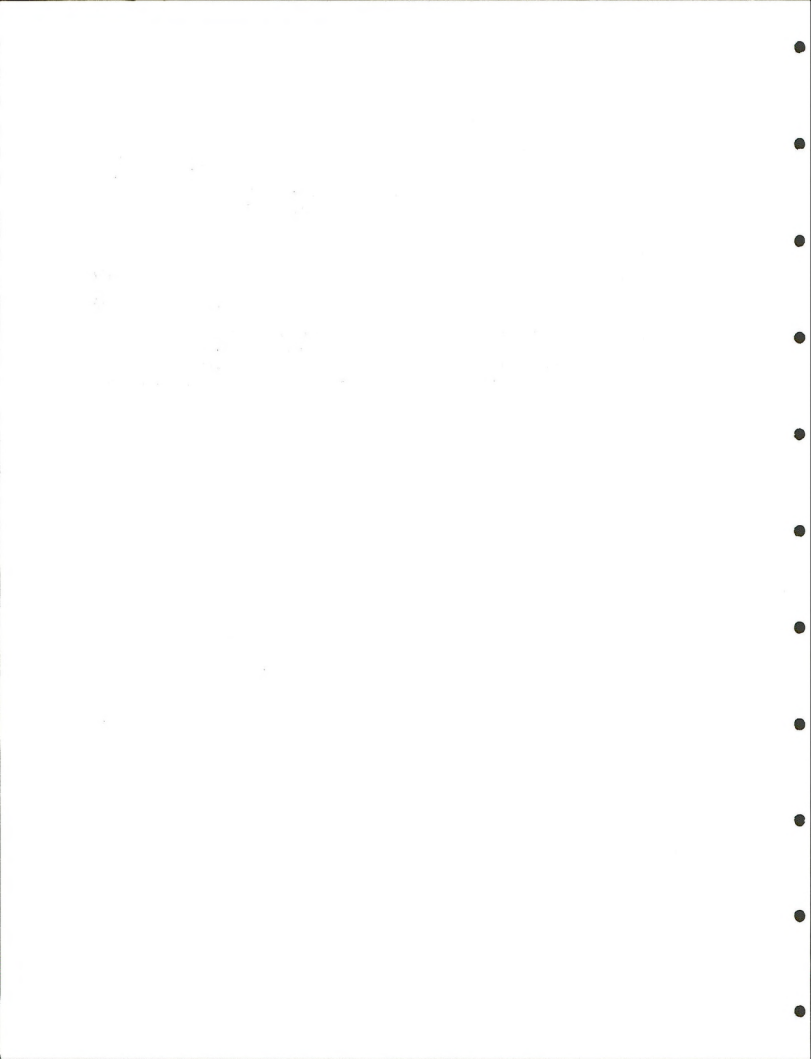
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SECTION 1

PHENOLOGY STUDY

1977

Introduction

Phenological study of important plant species in terms of productivity and microenvironmental variations will provide information that can be used to increase the efficiency of Bureau decision making with respect to management alternatives and disposition of natural resource areas.

Phenology studies of important shrub and grass species will provide detailed biological information related to specific changes in environmental characteristics such as time, duration, temperature, and movement. Very little detailed phenology and productivity information is available for arid land species of the western United States. Basic scientific knowledge and more precise information related to the Bureau's multiple resource management techniques will be enhanced by this phenology study.

Artemisia tridentata, Artemisia nova, Agropyron smithii, and Agropyron spicatum are the major shrub and grass species in the intermountain region on semi-arid, low elevation grazing ranges of public land. These species are especially important in the semi-arid regions of the western half of Wyoming from the Montana border on the north and the Utah and Colorado borders on the south. Their importance in adjacent states is equally significant. The ecological divergence of these four species is very great. They are found from high elevations

to very low elevations and from mesic to xeric situations. Therefore, these four species, in the development of the cooperative research program between the Bureau of Land Management and the University of Wyoming, were selected for intensive studies, to determine interrelationships of phenology, production, environment and utilization. These kinds of data are of major importance to the BLM for development of efficient and sound resource management decisions.

Intensive phenological studies were located on 12 selected exclosure areas. First level evaluation areas are: Demer exclosure, Farson exclosure, Horse Creek exclosure, Shoshoni Ant #7 exclosure, and Sweetwater exclosure. Second level evaluation areas are: Bud Kimball exclosure, Cedar Mountain exclosure, Cumberland #3 exclosure, Mesa Antelope exclosure, Owl Draw exclosure, Red Wash #2 exclosure and Upper Gov't. Draw exclosure.

Phenophase descriptions and stages with numerical scales were set up for four specific plant species: Agropyron smithii, A. spicatum, Artemisia nova, and A. tridentata, plus one phenological inventory for all plant species. Seasonal development (March-December) was recorded for 100 plant species in 12 exclosure areas. Individual plants of the four principal species in each of the 12 selected exclosure areas were permanently located for repeated observation.

Plans for 1978 call for a continuation of data collection. Criteria for environmental data will be established, and the data collected. There will be continued revision and sophistication of present numerical descriptions of plant growth characters. Statistical and computer analysis of the several environmental factors, productivity and plant growth will be devised and implemented. Soil characteristics of each

study site will be included in the analyses as variables to determine their relationships to the phenodynamics of the involved plants.

Objectives

The objectives of the study are to determine:

- (1) the relationship of phenodynamics with vegetation production and environmental data;
- (2) relationships of phenodynamics and environmental characteristics to grazing and management procedures.

Methods and Procedures

Twenty individual plants of each of the four principal species were permanently located along a 100 foot line in 12 exclosures. Every 5 ft. on the line, directions along and from the line for the closest plant were recorded.

Phenological measurements of Artemisia nova and A. tridentata included plant size, age, vegetative stages of growth with twig length, and reproductive stages of flowering and seed ripening with seed stalk length. Phenological measurements of Agropyron smithii and A. spicatum included plant size, age, vegetative stages of growth with leaf width and height; reproductive stages with spike height, number of spikelets per seed head and seed head development.

Phenological stages and numerical scores for shrubs and forbs are:

1. = initial start of growth of the plant;
2. = early vegetative growth -- the new leaves are developing and elongating;
3. = immature vegetative growth -- the new twigs are elongating;

4. = full vegetative growth -- the leaves and twigs are fully developed;
5. = floral bud stage -- the first buds begin development to the initiation of bloom;
6. = early bloom -- includes the initiation of bloom to 10% bloom;
7. = mid-bloom -- includes 10% to 75% of bloom;
8. = full-bloom -- includes 75% bloom to 100% bloom;
9. = late bloom -- the flowers are drying and seeds are beginning to form;
10. = milk stage -- the seeds are soft and immature (not well-formed);
11. = dough stage -- the seed is well-formed but still soft;
12. = ripe seed -- the seed is mature and hard;
13. = past ripe -- the seed is ripe but not shattered, and reproductive parts of the plant (seed, stalk, etc,) are mature, and are beginning to weather;
14. = mature vegetative -- the vegetative parts are beginning to brown to complete browning;
15. = mature reproductive -- the reproductive parts are curing (stem, leaf and seeds are shattering);
16. = fall regreening -- and/or leaf shed;
17. = winter dormancy.

The plant age classes of shrubs are classified as:

1. = seedling;
2. = young and small;

3. = intermediate age and size;
4. = mature age and size;
5. = old and decadent.

The phenological stages and numerical scores for grasses are:

1. = first leaf stage -- from the appearance of first leaf to appearance of second leaf;
2. = second leaf stage -- from the appearance of second leaf to appearance of third leaf;
3. = third leaf stage -- from the appearance of the third leaf to appearance of the fourth leaf;
4. = fourth leaf development -- from the appearance of the fourth leaf to full leaf development;
5. = boat stage -- the seed stalk is elongating and the noticeable swelling of the seed head in boot;
6. = seed head emergence -- from the beginning of emergence of the seed head to the start of anthesis;
7. = early anthesis -- from initiation of anthesis to 10% of florets in bloom;
8. = mid-anthesis -- from 10% florets in bloom to 75% of florets in bloom;
9. = full anthesis -- 75% and more of the florets in bloom;
10. = the seed is soft and immature (not well-formed);
11. = dough stage -- the seed is well-formed but still soft;
12. = ripe seed -- the seed is well-formed and hard;
13. = past ripe -- the reproductive parts begin to weather;
14. = vegetative parts browning;
15. = reproductive parts curing -- stems, leaves and seeds cast;

16. = fall regreening -- with adequate fall moisture and temperature there is fall regrowth;

17. = winter dormancy.

The maturity of Agropyron spicatum clumps are classified as: (a) seedling, (b) young, (c) intermediate, (d) mature, and (e) old. Each maturity classification can then be designated as: (a) sparse, (b) intermediate, (c) dense and (d) decadent.

1977 Results

An alphabetical listing of each study exclosure, the county where located and the principal phenology species is shown in Table I. Table II is an alphabetical listing of 122 species found in the 12 phenology study exclosures. A phenological inventory of all species by date for each exclosure is given in Table III. Table IV is the intensive phenological survey of the prime species for each exclosure. Table V is the date for the three major phenological growth stages for all species. Figure 1 shows the phenological development averages for 1977 for the four principal species in all of the study areas. Figure II is the phenological progression curves for each of the four prime species, for each exclosure. The current year is compared to the earliest and latest phenological development observations from 1973 to 1976.

The phenological response of the four prime species in 1977 were greatly affected by the inter-relationship of air temperature and amount and time of precipitation. In general, spring moisture was deficient with high temperatures throughout all the study areas. In particular, June was characterized by daily temperatures 5° to 7° higher than normal and monthly precipitation 0.5 to 2.00 inches below normal. The

combination of these two environmental factors resulted in delayed initiation of growth of Agropyron smithii and A. spicatum.

Temperatures in July remained above normal, but fortunately there was one to three inches of precipitation. At the Farson exclosure, there was no initiation of the grasses until after these rains. The rains also caused a rapid increase of growth in the shrubs and an earlier initiation of reproductive seed stalks on the Artemisia species.

Due to the delayed initiation of the grass species, no reproduction was recorded for either Agropyron smithii or A. spicatum at the following exclosures: Cedar Mountain, Cumberland #3, Demer, Farson, Mesa Antelope, and Red Wash #3. At all of these same exclosures shrub reproduction was within the average of the past years or delayed as at Farson. At the other exclosures, Shoshoni #7, Sweetwater and in the Big Horn Basin growth initiation and reproduction of the Artemisia species occurred at earlier dates than for the past four years.

In summary, the 1977 growing season was dry and hot. The combination of these two environmental factors resulted in delayed initiation of growth for the Agropyron species and reproduction occurring at only one half of the study sites. These same conditions resulted in an inverse relationship for the Artemisia species. Growth initiation and reproduction occurred at earlier dates than the previous four years.

TABLE I. Alphabetical listing of study areas, the county where each occurs, and the prime species.

Exclosure Name	County	Prime Species
Bud Kimball	Washakie	Agropyron smithii Artemisia tridentata
Cedar Mountain	Sweetwater	Agropyron spicatum Artemisia tridentata
Cumberland #3	Lincoln	Agropyron smithii Agropyron spicatum Artemisia tridentata
Demer	Washakie	Agropyron smithii Agropyron spicatum Artemisia tridentata
Farson	Sweetwater	Agropyron smithii Artemisia tridentata
Horse Creek	Big Horn	Agropyron smithii Agropyron spicatum Artemisia nova Artemisia tridentata
Mesa Antelope	Sublette	Agropyron smithii Artemisia tridentata
Owl Draw	Natrona	Agropyron smithii Agropyron spicatum Artemisia nova Artemisia tridentata
Red Wash #2	Sweetwater	Agropyron smithii Agropyron spicatum Artemisia tridentata
Shoshone Ant #7	Fremont	Agropyron smithii Artemisia tridentata
Sweetwater	Fremont	Agropyron smithii Artemisia nova Artemisia tridentata
Upper Gov't. Draw	Fremont	Agropyron smithii Artemisia tridentata

TABLE II. LIST OF PLANT NAMES WHICH OCCURRED IN PHENOLOGY STUDY AREAS.

Code	Genus-Species	Common Name	Life Form	Longevity
AGGL	Agoseris glauca	Pale agoseris	Forb	Perennial
AGCR	Agropyron cristatum	Crested wheatgrass	Grass	Perennial
AGSM	Agropyron smithii	Western wheatgrass	Grass	Perennial
AGSP	Agropyron spicatum	Bluebunch wheatgrass	Grass	Perennial
ALTE	Allium textile	Prairie onion	Forb	Perennial
AMAL	Amelanchier alnifolia	Western serviceberry	Shrub	Perennial
ANDI	Antennaria dimorpha	Low pussytoe	Forb	Perennial
ANRO	Antennaria rosea	Rose pussytoes	Mat-form	Perennial
ANT	Antennaria spp.	Pussytoe	Forb	Perennial
ARHO ²	Arabis holboellii	Holboell rockcress	Forb	Perennial
ARLI	Arabis lignifera	Woody rockcress	Forb	Annual
ARHO	Arenaria hookeri	Hooker sandwort	Mat-form	Perennial
ARFE	Aristida fendleriana	Fendler three-awn	Grass	Perennial
ARFR	Artemisia frigida	Fringed sagewort	Half-shrub	Perennial
ARNO	Artemisia nova	Black sagebrush	Shrub	Perennial
ARSP	Artemisia spinescens	Bad sagewort	Half-shrub	Perennial
ARTR	Artemisia tridentata	Big sagebrush	Shrub	Perennial
ASCI	Astragalus cibarius	Silky milkvetch	Forb	Perennial
ASDI	Astragalus diversifolius	Meadow milkvetch	Forb	Perennial
ASDR	Astragalus drummondii	Drummond milkvetch	Forb	Perennial
ASKE	Astragalus kentrophyta	Nuttall kentrophyta milkvetch	Forb	Perennial
ASMI ²	Astragalus miser	Timber milkvetch	Forb	Perennial
ASMI	Astragalus missouriensis	Missouri milkvetch	Forb	Perennial
ASPU	Astragalus purshii	Pursh loco	Forb	Perennial
AST	Astragalus spp.	Milkvetch	Forb	Perennial
ATCO	Atriplex confertifolia	Shadscale saltbush	Shrub	Perennial
ATGA	Atriplex gardneri	Gardner saltbush	Half-shrub	Perennial
BASA	Balsamorhiza sagittata	Arrowleaf balsamroot	Forb	Perennial
BOGR	Bouteloua gracilis	Blue grama	Grass	Perennial
BRTE	Bromus tectorum	Cheatgrass	Grass	Annual
CANU	Calochortus nuttallii	Sego lily	Forb	Perennial
CARL	Carex eleocharis	Needleleaf sedge	Sedge	Perennial
CAFI	Carex filifolia	Threadleaf sedge	Sedge	Perennial
CAAN	Castilleja angustifolia	Narrowleaf indian paintbrush	Forb	Perennial
CACH	Castilleja chromosa	Desert indian paintbrush	Forb	Perennial
CAS	Castilleja spp.	Paintbrush	Forb	Perennial
CHDE	Chenopodium desiccatum	Desert goosefoot	Forb	Annual
CHNA	Chrysothamnus nauseosus	Rubber rabbitbrush	Shrub	Perennial
CHVI	Chrysothamnus viscidiflorus	Douglas rabbitbrush	Shrub	Perennial
CIR	Cirsium spp.	Thistle	Forb	Perennial
COPA	Comandra pallida	False toadflax	Forb	Perennial
COPA	Cordylanthus ramosus	Branched birdbeak	Forb	Annual
CRE	Crepis spp.	Hawkbeard	Forb	Perennial
CRAC	Crepis acuminata	Tapertip hawkbeard	Forb	Perennial
CRMO	Crepis modocensis	Yellowstone hawkbeard	Forb	Perennial
CROC	Crepis occidentalis	Western hawkbeard	Forb	Perennial
CRBR	Cryptantha bradburiana	Miners candle	Forb	Perennial
CRFL	Cryptantha flavoculata	Roughseed cryptantha	Forb	Perennial
CYMD	Cymopterus montanus	False carrot	Forb	Perennial

TABLE II. Continued

Code	Genus-Species	Common Name	Life Form	Longevity
DEGE	Delphinium geyeri	Plains larkspur	Forb	Perennial
DEPI	Descurainia pinnata	Pinnate tansymustard	Forb	Annual
DOPA	Dodecatheon pauciflorum	Darkthroat shootingstar	Forb	Perennial
ERCA	Erigeron canadensis	Horseweed fleabane	Forb	Annual
EROC	Erigeron ochroleucus	Fleabane	Forb	Perennial
ERPU	Erigeron pumilus	Low fleabane	Forb	Perennial
ERI	Erigeron spp.	Fleabane	Forb	Perennial
ERCE	Eriogonum cernuum	Nodding wildbuckwheat	Forb	Annual
ERFL	Eriogonum flavum	Yellow wildbuckwheat	Mat-form	Perennial
ERMI	Eriogonum microthecum	Slenderbrush wildbuckwheat	Shrub	Perennial
EROV	Eriogonum ovalifolium	Cushion wildbuckwheat	Mat-form	Perennial
ERAS	Erysimum asperum	Plains wallflower	Forb	Perennial
CELA	Ceratoides lanata	Winterfat	Half-shrub	Perennial
GACO	Gaura coccinea	Scarlet gaura	Forb	Perennial
GIAG	Gilia aggregata	Skyrocket gilia	Forb	Perennial
GICO	Gilia congesta	Ballhead gilia	Forb	Perennial
GRSP	Grayia spinosa	Spiny hopsage	Shrub	Perennial
GRSQ	Grindelia squarrosa	Curlcup gumweed	Forb	Biennial
HAAC	Haplopappus acaulis	Stemless goldenweed	Mat-form	Perennial
JUOS	Juniperus osteosperma	Utah juniper	Tree	Perennial
JUSC	Juniperus scopulorum	Rockmountain juniper	Tree	Perennial
KOAM	Kochia americana	Greenmolly summercypress	Half-shrub	Perennial
KOCR	Koeleria cristata	Prairie junegrass	Grass	Perennial
LARE	Lappula redowskii	Bluebur stickweed	Forb	Annual
LEDE	Lepidium densiflorum	Prairie pepperweed	Forb	Annual
LEPE	Lepidium perfoliatum	Clasping pepperweed	Forb	Annual
LEPU	Lepodactylon pungens	Granite gilia	Shrub	Perennial
LERE	Lewisia rediviva	Bitterroot	Forb	Perennial
LILE	Linum lewisii	Lewis flax	Forb	Perennial
LOOR	Lomatium orientale	Eastern lomatium	Forb	Perennial
LOSI	Lomatium simplex	Narrowleaf lomatium	Forb	Perennial
MACA	Machaeranthera canescens	Hoary aster	Forb	Perennial
MAGR	Machaeranthera grindeloides	Pinnate woody-aster	Half-shrub	Perennial
MATA	Machaeranthera tanacetifolia	Tansyleaf aster	Forb	Annual
MFLO	Mertensia longiflora	Small bluebells	Forb	Perennial
OPPO	Opuntia polyacantha	Plains pricklypear	Forb	Perennial
ORFA	Orobancha fasciculata	Tufted broomrape	Saprophyte	Perennial
ORHY	Oryzopsis hymenoides	Indian ricegrass	Grass	Perennial
PECL	Penstemon cleburnei	Cleyburn penstemon	Forb	Perennial
PEFR	Penstemon fremonti	Fremont penstemon	Forb	Perennial
PEN	Penstemon spp.	Penstemon	Forb	Perennial
PHHO	Phlox hoodii	Hood's phlox	Mat-form	Perennial
PHLO	Phlox longifolia	Long-leaf phlox	Forb	Perennial
PLPA	Plantago patagonica	Woolly indianwheat	Forb	Annual
PLSP	Plantago spinescens	Spiny indianwheat	Forb	Annual
POFE	Poa fendleriana	Mutton bluegrass	Grass	Perennial
POSE	Poa secunda	Sandberg bluegrass	Grass	Perennial
PSTE	Psoralea tenuiflora	Slimflower scurfpea	Forb	Perennial

TABLE II. Continued

Code	Genus-Species	Common Name	Life Form	Longevity
SAKA	<i>Salsola kali</i>	Russian thistle	Forb	Annual
SELA	<i>Sedum lanceolatum</i>	Stonecrop	Forb	Perennial
SECA	<i>Senecio canus</i>	Wooly groundsel	Forb	Perennial
SILI	<i>Sisymbrium linifolium</i>	Narrowleaf hedgemustard	Forb	Annual
SIHY	<i>Sitanion hystrix</i>	Squirreltail bottlebrush	Grass	Perennial
SPCO	<i>Sphaeralcea coccinea</i>	Scarlet globemallow	Forb	Perennial
STCO	<i>Stipa comata</i>	Needleandthread	Grass	Perennial
STVI	<i>Stipa viridula</i>	Green needlegrass	Grass	Perennial
SYOC	<i>Symphoricarpos occidentalis</i>	Western snowberry	Shrub	Perennial
TAOF	<i>Taraxacum officinale</i>	Common dandelion	Forb	Perennial
TECA	<i>Tetradymia canescens</i>	Gray horsebrush	Shrub	Perennial
TENU	<i>Tetradymia nuttallii</i>	Nuttall horsebrush	Shrub	Perennial
TOIN	<i>Townsendia incana</i>	Hoary townsendia	Mat-form	Perennial
TRDU	<i>Tragopogon dubius</i>	Salsify	Forb	Biennial
TRGY	<i>Trifolium gymnocarpon</i>	Hollyleaf clover	Forb	Perennial
TRI	<i>Trifolium</i> spp.	Clover	Forb	
VIAM	<i>Vicia americana</i>	American vetch	Forb	Perennial
VINU	<i>Viola nuttallii</i>	Nuttall violet	Forb	Perennial
VIVA	<i>Viola vallicola</i>	Nuttall violet	Forb	Perennial
VIO	<i>Viola</i>	Violet	Forb	Perennial
VUOC	<i>Vulpia octoflora</i>	Common sixweeksgrass	Grass	Annual
XASA	<i>Xanthocephalum sarothrae</i>	Broom snakeweed	Half-shrub	Perennial
YUGL	<i>Yucca glauca</i>	Small soapweed	Forb	Perennial
ZYPA	<i>Zygadenus paniculatus</i>	Foothill death camas	Forb	Perennial
ZYVE	<i>Zygadenus venenosus</i>	Meadow death camas	Forb	Perennial
ASSP	<i>Astragalus spatulatus</i>	Spoonleaf milkvetch	Mat-form	Perennial
CHDO	<i>Chaenactis douglasii</i>	Douglas dustymaiden	Forb	Perennial
ERCA ²	<i>Eriogonum caespitosum</i>	Mat wildbuckwheat	Mat-form	Perennial
PRMU	<i>Phlox multiflora</i>	Flowery phlox	Mat-form	Perennial

TABLE III. All species phenological survey by date for each enclosure.

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Sweetwater "	36
Upper Gov't Draw "	38

TABLE III. All species phenological survey by date for each enclosure.

PHENOLOGICAL INVENTORY Study Area Bud Kimball

1977

Type-site Artr - Agsm

SPECIES IDENTIFICATION	VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR	
	23 Apr		17 May		8 June		1 July		20 July		11 Aug		17 Sept									
1. AGSM	2.9		3.8		4.2	5.5	4.3	5.5	4.4	10.2	14.4	13.2	14.6	13.9								
2. AGSP					4.5	7.7	4.8	11.6	4.9	15.6	14.1	15.9	14.3	15.9								
3. ARTR	2.3		3.3		3.4	5.2	3.5	5.3	3.6	5.5	3.7	5.6	4.3	8.7								
4. BRTE	2.2		4.4	5.7	4.9	8.8	14.7	15.1	14.8	15.4	14.9	15.9	17.0	15.9								
5. CACH	2.4		3.3	7.6	3.7	8.2	14.4	15.6	14.8	15.8	14.9	15.9	17.0	15.9								
6. CRE			3.5	7.5	14.1	12.2	14.6	15.4	14.9	15.9	14.9	15.9	17.0	15.9								
7. ERPU			3.0	5.5	3.5	7.6	4.7	13.9	4.9	15.2	14.5	15.8	16.1	15.8								
8. KOGR			3.9		4.5	8.9	4.9	12.3	14.2	13.8	14.4	15.9	14.5	15.9								
9. LARE			3.3	7.3	4.7	9.8	14.1	11.3	14.3	13.6	14.7	15.7	14.9	15.9								
10. LEDE					4.8	10.5	14.7	15.8	14.8	15.9	14.9	15.9	17.0	15.9								
11. LERE			2.7	5.5	3.5	6.7	14.2	13.7	14.7	15.6	14.8	15.9	14.9	15.9								
12. LOOR	2.7	6.4	3.7	9.2	14.2	12.3	14.9	15.9	14.9	15.9	14.9	15.9	17.0	15.9								
13. MATA	2.4				3.2	6.1	4.6	8.9	14.2	13.4	14.2	15.2	14.3	15.6								
14. OPPO	2.2		2.7	5.2	3.4	5.7	3.7	11.0	3.8	12.1	3.8	13.1	4.2	15.4								
15. PHHO	2.3	6.1	3.1	6.2	3.6	10.2	4.2	15.3	14.1	15.6	14.3	15.9	14.5	15.9								
16. PLSP					3.6	6.8	14.2	13.7	14.1	13.9	14.4	15.8	14.8	15.8								
17. POSE	3.2		4.1	5.8	14.0	8.6	14.6	13.8	14.8	15.8	14.8	15.8	14.9	15.9								
18. SIHY			4.1		4.4	7.5	14.0	13.7	14.6	15.3	14.7	15.7	14.8	15.9								
19. SPCO	2.2		2.6		3.1	5.3	3.5		4.2		14.1		14.4									
20. STCO	3.2		4.0		4.6	7.8	14.2	13.5	14.2	15.4	14.3	15.9	16.2	15.9								
21. STVI			4.1		4.5	6.3	4.9	12.2	4.9	13.7	14.1	15.8	14.5	15.9								
22. VIAM	2.4		2.8	6.1	3.5	10.0	14.2	13.8	14.3	15.2	14.8	15.8	17.0	15.9								

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area

Bud Kimball

1977

Type-site

Artr - Agsm

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	23 Apr	17 May	8 June	1 July	20 July	11 Aug	17 Sept				
1. VIOLA	2.3	3.5	9.1	14.0	11.5	14.3	13.6	14.8	15.8	14.9	15.9
2. VUOC				3.4	7.1	14.6	13.8	14.8	15.8	14.9	15.9
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
16.											
17.											
18.											
19.											
20.											
21.											
22.											

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Cedar Mt.

1977

Type-site Artr - Agsp

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	20 Apr	19 May	7 June	27 June	19 July	18 Aug	9 Sept	5 Nov			
1. AGCR	2.1	4.1	4.4 6.2	4.6 7.2	14.4 15.2	16.3 15.7	16.4 15.8	16.5 17.0			
2. AGSP	1.8	3.2	3.4	3.7	14.1	16.3	16.4	16.6			
3. ARHO	2.0			14.1		16.3	16.3	16.4			
4. ARHO ²	17.0										
5. ARSP	0.3	3.0 5.1	3.2 7.1	4.3 13.0	14.5 13.2	14.5 15.3	16.1	17.0 17.0			
6. ARTR	17.0	2.8	3.1	3.3 5.0	3.3 5.2	3.6 5.4	3.9 6.8	4.9 15.1			
7. ASPU	17.0			14.1 13.1	14.5 13.9	14.8 15.8	14.9 15.9	17.0 17.0			
8. ATCO	17.0	2.6	3.1	3.4	3.6	3.7	4.1	14.3			
9. ATGA	1.3	2.5	3.0	4.0	4.2	4.5	14.0	14.3			
10. CHVI	17.0	2.6	3.1	3.6 6.2	3.7 6.4	4.2 7.1	14.0 10.1	14.8 15.8			
11. CRMO	17.0										
12. CYMO	1.3	3.3 7.1			14.8 15.8	14.9 15.9	14.9 15.9	17.0 17.0			
13. ERI	17.0										
14. EROV	1.1	1.4	2.3	3.3	14.1 15.3	16.3 15.8	16.4 15.9	17.0 15.9			
15. ERPU	1.1										
16. EULA	17.0	2.3	3.3	3.4	3.5	3.6	4.1	14.3			
17. HAAC	1.1	1.3	3.1 6.1	3.2	3.4						
18. KOAM	17.0	3.1	3.3	3.5	3.5	3.6	4.8	14.7			
19. OPPO	17.0	2.1	2.7 5.2	3.3 6.1	3.6 10.5	3.8 12.3	4.3 13.6	14.3 15.8			
20. ORHY	17.0	3.0	3.1	14.1	14.4	16.2	16.2	16.4			
21. PEFR	1.3	2.7									
22. PHHO	1.1	1.3	2.1	14.1	14.4	16.2	16.2	17.0 17.0			

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Cedar Mt. 1977 Type-site Artr - Agsp

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	20 Apr	19 May	7 June	27 June	19 July	18 Aug	9 Sept	5 Nov			
1. PHLO	17.0		2.7	3.0	3.1	3.1	3.4				
2. POSE	2.9	3.8	4.5 6.1	14.4 13.2	14.6 15.2	16.2 15.9	16.2 15.9	16.4 17.0			
3. SIHY	1.6	3.3	4.4	4.5	14.2	16.3	16.3	16.4			
4. SILI	17.0		3.4 6.3								
5. SPCO	17.0		3.2	3.4	3.5	3.8	3.9				
6. TAOF	17.0										
7. TENU	17.0	2.7	3.0	14.1	14.7	14.7	14.7	17.0			
8. TOIN	0.2										
9.											
10.											
11.											
12.											
13.											
14.											
15.											
16.											
17.											
18.											
19.											
20.											
21.											
22.											

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Cumberland #3

1977

Type-site AGSM - AGSP - ARTR

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	19 May	7 June	28 June	19 July	9 Aug	7 Sept	5 Nov				
1. AGGL	2.3	14.1 15.1	14.9 15.9	14.9 15.9	14.9 15.9	14.9 15.9	17.0 17.0				
2. AGSM	3.2	3.5	3.8	4.2	14.2	16.3	16.6				
3. AGSP	3.4	4.2	4.4	4.5	4.9	16.3	16.5				
4. AMAL	2.6	3.3 10.1	3.5 12.0	3.6 12.5	3.8 13.1	4.5 15.8	17.0 17.0				
5. ANDI	2.7	3.3 8.5	14.0 12.3	14.5 13.2	14.6 15.9	16.4 15.9	16.6 17.0				
6. ARHO	2.3				14.8 15.6	14.9 15.9	17.0 17.0				
7. ARTR	3.1	3.3 5.0	3.4 5.3	3.5 5.4	3.9 5.9	4.0 6.6	4.9 15.5				
8. ASCI	2.0	3.1	14.0	14.5	14.7	14.8	17.0				
9. ASDI		3.2	3.5	3.7	3.8	3.9	14.7				
10. ASPU	2.3		14.1 15.3	14.4 15.6	14.8 15.8	14.8 15.8	17.0 17.0				
11. CAS		3.5 5.4	3.8 9.6		14.8 15.8	14.9 15.9	17.0 17.0				
12. CHNA			3.6	3.7 7.0	3.8 8.6	4.4 15.6	14.7 15.9				
13. CHVI	2.3	3.4	3.6 5.1	3.6 6.1	3.7 8.5	4.3 11.1	16.3 15.8				
14. COPA	3.1	3.5 7.8	3.9 8.0	3.9 10.2	4.2 13.1	4.8 13.9					
15. ERM	2.3	3.3	3.4 5.5	3.6 6.1	3.7 8.8	3.8 10.4	16.4 15.2				
16. LOSI	3.1 5.5	14.1 12.3	14.9 15.9	14.9 15.9	14.9 15.9	16.3 15.9	16.4 15.9				
17. MELO	3.5 7.1	4.9 13.0	14.7 15.6	14.8 15.7	14.9 15.9	14.9 15.9	17.0 17.0				
18. OPPO	2.0	2.9 5.3	3.3 6.5	3.3 9.4	3.5 13.1	3.7 15.6	16.1 17.0				
19. ORHY	3.2	3.3	3.4	3.5 10.3	14.1 13.7	16.3 15.8	16.4 17.0				
20. PHLO	2.1	3.4 6.1	14.0 15.3	14.6 15.8	14.7 15.9	16.3 15.9	16.4 15.9				
21. PHMU	2.8 5.5	3.5 12.1	14.4 15.0	14.6 15.2	14.7 15.8	16.3 15.8	16.4 17.0				
22. POFE	2.6	3.3 7.1	14.1 13.1	14.1 15.1	14.1 15.5	16.3 15.9	16.4 17.0				

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Cumberland #3

1977

Type-site AGSM - AGSP - ARTR

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	19 May	7 June	28 June	19 July	9 Aug	7 Sept	5 Nov.				
1. POSE	3.3	3.4 7.2	14.3 13.1	14.5 15.0	14.8 15.9	16.3 15.9	16.4 17.0				
2. SIHY	2.9	3.3	14.0	14.1	14.3	16.3	16.4				
3. SILI		3.5 6.1	14.0								
4. STCO	3.3	3.4	14.0	14.0	14.0	16.2	16.4				
5. SYOC	2.3	3.4	3.6 6.1	3.6 11.8	3.8 12.1	4.2 13.7	17.0 17.0				
6. TECA	2.4	3.3	3.6 5.5	3.6 7.3	3.8 10.7	4.2 13.7	14.6 17.0				
7. TRI	2.5	3.1	14.0	14.2	14.4	14.9	17.0				
8. VIOLA	2.3 6.2	4.1	14.1	14.4	14.9	16.3	16.3				
9. ZYPA	3.4	4.9 8.0	14.7 13.6	14.7 15.3	14.8 15.8	14.9 15.9	17.0 17.0				
10.											
11.											
12.											
13.											
14.											
15.											
16.											
17.											
18.											
19.											
20.											
21.											
22.											

TABLE III. (continued)

PHENOLOGICAL INVENTORY		Study Area		Demer		1977		Type-site		ARTR - AGSM	
SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	23 Apr	17 May	9 June	30 June	20 July	11 Aug	17 Sept				
1. AGSM	3.2	3.4	3.5	4.6	14.1	14.5	14.8				
2. AGSP	3.2	4.4	6.1	4.6	6.6	14.1	11.3	14.2	12.4	14.3	15.2
3. ALTE		3.4	7.5	14.1	10.2	14.9	15.8	14.9	15.9	14.9	15.9
4. ARTR	2.1	3.2	3.3	5.1	3.5	5.3	3.6	5.4	3.7	5.8	4.5
5. BOGR	3.4	4.3	4.5	4.7	6.3	4.9	6.6	14.2	16.4		
6. BRTE	3.2	4.4	7.1	14.1	9.1	14.7	13.8	14.8	15.2	14.9	15.9
7. DEGE	2.4	3.0	5.1	14.3	9.7	14.8	15.2	14.9	15.9	14.9	15.9
8. DEPI		3.1	7.5	3.6	8.2	14.1	13.8	14.4	15.5	14.9	15.9
9. LARE						14.5	15.5	14.9	15.9	14.9	15.9
10. LEDE			3.8	11.2	14.4	13.2	14.9	15.9	14.9	15.9	
11. OPPO	2.2	2.5	5.2	3.2	6.0	3.6	10.7	3.8	12.5	3.9	13.9
12. ORHY		4.1	4.4	4.7	10.8	14.0	13.5	14.2	15.4	14.9	15.9
13. PLSP		3.4	5.6	4.8	9.3	14.6	13.7	14.6	15.1	14.7	15.3
14. POSE	3.4	4.2	6.8	14.3	10.1	14.6	13.5	14.6	15.7	14.7	15.8
15. SIHY	3.2	4.3	5.5	4.6	5.5	14.1	6.6	14.3	13.1	14.5	15.3
16. SILI		2.4	3.6	8.2	3.9	11.4	4.5	12.5	14.1	13.8	14.7
17. SPCO	2.1	2.6	3.1	3.5	4.1	14.1					
18. STCO	3.2	4.1	4.3	7.1	14.0	12.3	14.1	15.6	14.2	15.6	14.4
19. VUOC		4.3	6.8	14.3	11.1	14.8	15.6	14.8	15.9	14.9	15.9
20.											
21.											
22.											

TABLE III. (continued)

PHENOLOGICAL INVENTORY		Study Area		1977		Type-site		ARTR-AGSM			
SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	21 Apr	18 May	7 June	28 June	19 July	10 Aug	7 Sept	6 Nov			
1. AGSM	1.7	1.3	2.1	14.0	14.8	16.3	16.4	16.8			
2. ALTE	2.1			14.8	14.8	14.9	14.9	14.9			
3. ARHO	1.1	2.3	3.4	14.0	14.4	14.6	14.9	15.4 11.5			
4. ARHO ²	17.0	2.1		14.9	14.6	16.3	16.3 6.1				
5. ARTR	1.1	1.3	2.2	2.3	2.3	3.7 5.2	4.3 5.8	4.9 6.5			
6. ASPU	17.0	17.0	17.0	17.0	17.0	3.0 5.5	3.4	14.0			
7. ATCO	17.0	17.0	1.1	2.3	3.6	3.7	3.8	14.5			
8. CAEL	1.2	1.3 7.2	14.8	14.8	14.8	16.2	16.3	16.7			
9. CHVI	17.0	1.0	1.0	14.0	14.9	16.2	16.3 6.0	16.4 13.2			
10. CYMO	1.5			14.9	14.9	14.9	14.9	17.0			
11. ERCE	17.0	17.0	17.0	17.0	17.0	2.5					
12. EROV	17.0	1.2	1.2	14.0	14.6	16.3	16.3	17.0			
13. EULA	17.0	1.0	1.0	2.3	3.0	3.5	3.6 7.6	14.3 13.4			
14. GRSP	17.0	2.0	14.8	14.8	14.9	16.2	16.3	17.0			
15. XASA	17.0	2.0									
16. HAAC	0.4	2.0		14.6		16.3					
17. KOCR	1.2	3.0		14.1		16.3	16.3 6.5	16.3			
18. OPPO	17.0	1.3	1.3	2.8 5.7	3.3	3.6	3.8 11.1	14.2 13.9			
19. ORHY	1.3	2.1	4.5	14.2	14.2	16.3	16.3	16.4			
20. PECL	0.4	1.0	14.9			16.2		16.3 16.5			
21. PHHO	0.1	1.3	14.2	14.3	14.4	16.3 6.0	16.3	16.4			
22. POSE	1.5	2.1				16.3	16.4	16.4			

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Farson

1977

Type-site ARTR - AGSM

SPECIES IDENTIFICATION	VEG REPR 21 Apr	VEG REPR 18 May	VEG REPR 7 June	VEG REPR 28 June	VEG REPR 19 July	VEG REPR 10 Aug	VEG REPR 7 Sept	VEG REPR 6 Nov.	VEG REPR	VEG REPR	VEG REPR
1. SIHY	1.4	3.0	14.1	14.2	14.5	16.3	16.3	16.3			
2. SILI	17.0	17.0	17.0	17.0	17.0	3.3 5.7	3.6 6.3				
3. SPCO	17.0	17.0	17.0	17.0	17.0	3.2	3.5 6.5	14.6 13.6			
4. STCO	1.2	2.9		14.2	14.3	16.3	16.3	16.4			
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
16.											
17.											
18.											
19.											
20.											
21.											
22.											

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area Horsecreek

1977

Type-site ARNO-AGSP

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	23 Apr	17 May	8 June	30 June	20 July	10 Aug	17 Sept				
1. AGSP	3.7	4.4 5.6	4.8 7.0	14.1 11.2	14.2 13.9	14.8 15.8	16.5 15.9				
2. ARFE	3.3 6.1	4.1	4.5	4.9 13.8	14.1 15.1	14.2 15.8	16.0 15.9				
3. ARHO ²	3.2 5.4	4.1 11.4	14.2 13.4	14.9 15.9	14.9 15.9	14.9 15.9	17.0 17.0				
4. ARNO	2.1	3.1	3.3 5.2	3.4 5.3	3.7 5.6	3.8 5.8	4.6 11.0				
5. ARTR	2.2	3.2	3.5 5.1	3.5 5.4	3.6 5.6	3.8 5.6	4.5 10.0				
6. ASPU	2.4	3.6 11.9	14.1 13.8	14.3 15.3	14.8 15.7	14.9 15.9	17.0 17.0				
7. BRTE	3.4	4.2 6.3	14.3 12.2	14.7 13.8	14.8 15.8	14.9 15.9	17.0 17.0				
8. CAAN	3.3 5.1	3.4 6.3	3.6 9.7	14.0 13.2	14.8 15.4	14.9 15.9	17.0 17.0				
9. CHDE			3.4 8.2	8.6 9.0	4.2 10.1	4.3 10.4	4.5 10.7				
10. CIR	2.2		3.4 5.5	14.0 13.6	14.2 13.8	14.2 15.1	14.2 15.9				
11. COPA	2.3	2.7 8.4									
12. CRBR	2.3	3.4 7.1	4.4 9.4	14.9 15.9	14.9 15.9	14.9 15.9	17.0 17.0				
13. CRFL	2.3	3.2 6.5		14.2 15.6	14.7 15.7	14.9 15.9	17.0 17.0				
14. DEPI		3.4 7.0	4.3 11.7	14.1 15.2	14.9 15.9	14.9 15.9	17.0 17.0				
15. EULA		3.4 5.4	3.4	3.4	3.6	3.7	4.2 6.3				
16. GACO	2.5 5.4	3.0 5.6	3.7 8.5	3.8 9.8	4.8 13.6	14.1 15.2	14.3 15.7				
17. XASA	2.2	3.0	3.4	14.1 15.4	14.2 16.2	14.2 17.2	14.2 9.3				
18. HAAC	2.4 5.1	3.3 6.3	14.1 15.4	14.2 15.8	14.6 15.9	14.6 15.9	14.7 17.0				
19. LARE		2.9 5.4		14.6 13.9	14.8 15.4	14.9 15.9	17.0 17.0				
20. OPPO	2.2	2.8 5.1	3.3 6.3	3.6 12.0	3.8 13.7	3.8 15.4	4.3 15.6				
21. ORHY		4.0 5.3	4.5 8.8	4.9 12.7	14.2 13.6	14.3 15.6	14.4 15.9				
22. PECL		3.2 6.4	3.9 9.5	14.2 13.9	14.5 15.6	14.6 15.9	16.3 15.9				

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area Horsecreek

1977

Type-site ARNO - AGSP

SPECIES IDENTIFICATION	VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR	
	23 Apr	17 May	8 June	30 June	20 July	10 Aug	17 Sept															
1. PHHO	2.3 6.1	3.1 6.5	3.8 11.1	14.3 15.8	14.6 15.9	14.6 15.9	16.0 15.9															
2. POSE	3.2	4.1 6.9	4.1 9.8	14.4 13.6	14.6 15.5	14.7 15.8	14.9 17.0															
3. SAKA	2.4				3.7	3.8 6.1	3.9 9.8															
4. SIHY	3.7	4.1	4.8 8.6			14.5 15.9	14.6 15.9															
5. SPCO	2.3	3.4 5.4	3.6 8.4	3.8 10.1	4.2 11.8	14.1 13.2	14.2 13.8															
6. STCO	3.1	4.2 6.3	4.4 7.4	14.0 13.1	14.2 13.8	14.2 15.8	16.0 15.9															
7. VIVA		3.8 9.2	14.3 15.2	14.9 15.9	14.9 15.9	14.9 15.9	14.9 17.0															
8. YUGL		2.9 5.7	3.4 9.8	4.1 11.5	9.4 6.1	15.9 14.1	15.9 14.1	17.0														
9. ZYVE	3.7		14.1 13.6	14.9 15.9	14.9 15.9	14.9 15.9	17.0 17.0															
10.																						
11.																						
12.																						
13.																						
14.																						
15.																						
16.																						
17.																						
18.																						
19.																						
20.																						
21.																						
22.																						

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area Horsecreek

1977

Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	23 Apr	17 May	8 June	30 June	20 July	10 Aug	17 Sept				
1. AGSM	3.1	4.1	4.3	4.6 9.4	4.8 10.2	14.8	16.2				
2. AGSP	3.4	4.4 5.6	4.7 7.0	14.1 11.2	14.2 13.9	14.5 15.8	16.5 15.9				
3. ALTE		3.3 6.7	14.1 9.8	14.8 15.2	14.9 15.9	14.9 15.9	17.0 17.0				
4. ARTR	2.1	3.2	3.4 5.2	3.5 5.5	3.6 5.6	3.8 5.6	4.5 10.0				
5. BRTE	3.4	4.1 6.3	14.3 13.2	14.7 13.9	14.8 15.8	14.9 15.9	17.0 17.0				
6. CAAN		3.5 6.4	3.6 9.7	14.0 13.2	14.8 15.4	14.8 15.8	17.0 17.0				
7. CANU		3.1 5.2	4.4 9.6	14.2 11.9	14.7 15.6	14.9 15.9	17.0 17.0				
8. CHDE			3.4 8.2	3.8 9.3	4.2 10.1	4.5 10.4	4.5 10.7				
9. COPA		2.7	3.1 7.5								
10. CROC	2.4	3.2	14.1 13.6	14.8 15.8	14.9 15.9	14.9 15.9	17.0 17.0				
11. DEPI		3.3 6.5	4.3 11.7	14.1 15.2	14.9 15.9	14.9 15.9	17.0 17.0				
12. ERPU	1.4	3.3 6.2	4.3 13.1	14.1 15.2	14.3 15.5	14.6 15.9	14.6 17.0				
13. CELA		3.4 5.4	3.4	3.6	3.6	3.7	4.2 6.3				
14. XASA	2.3	3.1	3.3	14.0 5.4	14.2 16.2	14.2 7.0	14.2 9.3				
15. HAAC		3.5 6.7	14.1 15.4	14.3 15.8	14.6 15.9	14.8 15.9	14.8 17.0				
16. LARE		3.3 6.0		14.7 15.1	14.8 15.8	14.9 15.9	17.0 17.0				
17. LEDE		3.4 7.4	3.9 12.0	14.1 15.3	14.9 15.9	14.9 15.9	17.0 17.0				
18. LOOR	2.3 6.1	3.7 10.1	14.9 15.9	14.9 15.9	14.9 15.9	14.9 15.9	17.0 17.0				
19. MACA		3.1 5.3	4.6 9.5	14.0 13.7	14.1 15.3	14.3 15.9	14.9 15.9				
20. MAGR						4.7 15.6	14.0 15.9				
21. OPPO	2.3	3.1 5.1	3.7 6.3	3.7 13.0	3.8 13.7	3.8 15.1	4.3 15.6				
22. ORHY		4.0	4.5 8.8	14.0 13.2	14.2 13.6	14.2 15.2	14.2 15.9				

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Horsecreek 1977 Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR	
	23	Apr	17	May	8	June	30	June	20	July	10	Aug	17	Sept								
1. PECL	2.3		3.3	6.0	3.9	9.5	14.5	15.0	14.5	15.6	14.5	15.9	16.3	15.9								
2. PHHO	2.4	6.1	3.0	6.5	3.8	12.1	14.3	15.8	14.6	15.9	14.7	15.9	16.0	15.9								
3. POSE	3.2		4.2	6.3	14.1	9.8	14.4	13.6	14.6	15.5	14.7	15.8	14.9	17.0								
4. SIHY			4.1		4.8	8.6					14.4	15.7	14.6	15.9								
5. SPCO	2.3	5.1	3.3	5.6	3.6	8.4	3.8	10.1			14.1	13.2	14.2	13.8								
6. STCO	3.1		4.1	6.2	4.4	7.4	14.0	13.1	14.2	13.8	14.2	15.2	16.0	15.9								
7. TRDU					3.8	6.5	14.0	15.7	14.5	15.8	14.9	15.9	14.9	15.9								
8. VINU			3.6	9.0	14.5	15.1	14.9	15.9	14.9	15.9	14.9	15.9	17.0	17.0								
9. ZYVE	3.2				14.1	13.6	14.9	15.9	14.9	15.9	14.9	15.9	17.0	17.0								
10.																						
11.																						
12.																						
13.																						
14.																						
15.																						
16.																						
17.																						
18.																						
19.																						
20.																						
21.																						
22.																						

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area Mesa Antelope 1977Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	
	21 Apr	18 May	7 June	28 June	19 July	9 Aug	7 Sept	5 Nov							
1. AGSM	1.8	2.7	3.2	3.5	3.8	4.2	16.3	14.9							
2. ALTE	1.1	2.8		1.49	15.4	14.9	15.7	14.9	15.9	17.0	17.0				
3. ARHO	17.0	17.0	17.0	17.0	17.0	17.0	3.2	14.2							
4. ARTR	1.2	2.3	3.1	5.0	3.4	5.2	3.9	5.9	4.0	8.0	4.9	5.5			
5. ASSP	1.2	2.6					16.3	16.3							
6. ATGA								4.3							
7. CAEL	1.4	3.3	6.1	14.1	11.3	14.2	12.8	14.4	13.2	16.3	15.1	16.3	15.7	16.4	15.9
8. CHVI	17.0	2.8	3.2		3.6	5.8	3.6	6.3	3.7	8.1	3.8	10.1	14.6	15.6	
9. CORA	17.0														
10. CYMO	3.1	4.1	7.2		14.9	15.9	14.9	15.9	14.9	15.9	14.9	15.9	17.0	17.0	
11. ERCA ²		2.5	3.3	7.0	4.0	12.3	4.6	13.4	16.2	15.3	16.3	15.4	17.0	15.6	
12. EROV	1.3	2.7	2.8		2.9	3.5	16.3	16.3		17.0	17.0				
13. CELA	17.0	2.0	3.2		3.3	3.5	3.6	3.7	6.3	14.1	13.6				
14. HAAC	1.5		2.8		3.2		16.3								
15. LEPU	17.0	2.3				4.2									
16. MACA	17.0		3.3			3.4	7.4	3.5	8.1	3.6	8.9	4.7	15.5		
17. MATA	17.0		3.0												
18. OPPO	17.0	2.1	3.0	5.3	3.3	5.9	3.4	9.2	3.6	12.1	3.7	13.6	16.1	15.6	
19. ORHY	2.1	2.9	3.4		4.2	7.3	4.5	11.3	16.2	12.2	16.3	12.6	16.4	15.2	
20. PELA	1.4								3.7	7.5	14.2	15.5			
21. PHHO	1.0	2.6	6.0	3.1	9.4	14.3	15.4	14.3	15.5	16.2	15.9	16.3	15.9	16.9	17.0
22.															

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area Mesa Antelope

1977

Type-site ARTR -AGSM

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	21 Apr	18 May	7 June	28 June		9 Aug	7 Sept					
1. POSE	2.4	3.4	3.7 6.2	14.4 13.2	14.7 13.4	16.2 15.7	16.3 15.8	16.7 17.0				
2. SIHY	2.0	4.0	4.3 5.1	4.4 8.1	4.5 13.2	16.3 15.4	16.3 15.6	16.8 17.0				
3. SILI	17.0											
4. STCO	1.8	3.7	3.8 5.6	4.1 6.1	4.4 9.3	4.6 11.3	4.8 15.1	16.4 17.0				
5. TRI	17.0		3.6									
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												
21.												
22.												

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area Owl Draw

1977

Type-site ARNO-ARTR-AGSM-AGSP

SPECIES IDENTIFICATION	VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR		VEG REPR	
	17	Apr	16	May	2	July	18	July	12	Aug	18	Sept	17	Nov								
1. AGSM	2.0		3.3		3.5	6.0	4.3	10.1	14.1	13.7	14.6	15.2	17.0	17.0								
2. AGSP	2.1		3.5		4.2	6.1	4.6	13.2	14.8	13.7	14.5	15.7	17.0	17.0								
3. ALTE	3.3		3.4		3.4		3.5	6.5	14.1	13.9	17.0	17.0	17.0	17.0								
4. ANRO			3.3	6.3			14.1	15.2	14.3	15.6	14.4	17.0	17.0	17.0								
5. ARHO	1.3		3.6		14.0	6.2	14.2	15.1	14.3	15.8	14.5	17.0	17.0	17.0								
6. ARHO ²	3.5		3.8	10.1	14.6	15.3	14.9	15.9	14.8	15.9	17.0	17.0	17.0	17.0								
7. ARNO	17.0		2.6		3.4	5.4	3.5	5.5	3.7	6.3	4.6	10.2	14.3	15.3								
8. ARTR	17.0		2.5		3.5	5.4	3.6	5.6	3.8	5.8	4.4	9.2	14.0	15.3								
9. ASDR	17.0		3.4	6.3	14.3	13.6	14.5	15.2	14.8	15.8	14.9	15.9	17.0	17.0								
10. ASMI ²	17.0		3.4	6.1	14.3	13.7	14.5	15.2	14.7	15.7	14.9	15.9	17.0	17.0								
11. ASPU	17.0		3.3	6.0	14.0	13.8	14.3	15.1	14.6	15.7	17.0	17.0	17.0	17.0								
12. AST	17.0		3.3	6.2	4.3	11.0	4.5	15.0	4.7	15.8	14.8	15.9	17.0	17.0								
13. BASA	17.0		3.6	8.1	14.2	15.6	14.3	15.8	14.4	15.9	14.7	17.0	17.0	17.0								
14. CACH	1.2		3.5	6.6	14.0	13.8	14.2	15.3	14.7	15.8	17.0	17.0	17.0	17.0								
15. CANU	1.4				4.8	9.5	14.2	13.8	14.8	15.8	17.0	17.0	17.0	17.0								
16. CHVI	1.4		3.2		3.5	6.1	3.7	6.3	3.8	8.9	14.2	12.3										
17. CIR			3.4						4.8	13.9	14.2	15.4	17.0	17.0								
18. CRAC	17.0		3.1	5.1	14.8	15.7	14.9	15.6	14.9	15.9	17.0	17.0	17.0	17.0								
19. CYMO	2.5		3.6	7.5	14.9	15.9	14.9	15.9	14.9	15.9	17.0	17.0	17.0	17.0								
20. DOPA	17.0		3.7	8.3	14.7	15.6	14.8	15.8	14.9	15.9	17.0	17.0	17.0	17.0								
21. EROC	1.2		3.5	7.1	14.1	15.5	14.2	15.7	14.2	15.9	14.5	15.9	17.0	17.0								
22. EULA	17.0		2.7		3.3	7.2	3.5		3.7				14.8									

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area Owl Draw

1977

Type-site ARNO-ARTR-AGSM-AGSP

SPECIES IDENTIFICATION	VEG REPR 17 Apr	VEG REPR 16 May	VEG REPR 2 July	VEG REPR 18 July	VEG REPR 12 Aug	VEG REPR 18 Sept	VEG REPR 17 Nov	VEG REPR	VEG REPR	VEG REPR	VEG REPR
1. HAAC	1.3	3.2 5.3	14.0 15.2	14.1 15.8	14.3 15.9	14.6 17.0	17.0 17.0				
2. JUOS	17.0	2.3	3.6 11.2	3.7 13.1	3.8 13.9	4.3 13.9	14.5 15.5				
3. JUSC	17.0	2.3	3.6 11.2	3.7 13.1	3.8 13.9	4.3 13.9	14.6 15.9				
4. KOCR	2.3	4.1	14.0 13.2	14.1 15.1	14.1 15.7	14.5 15.9	17.0 17.0				
5. LERE	1.4	3.3	4.9 13.0	14.2 13.9	14.7 15.8	14.9 17.0	17.0 17.0				
6. LILE	1.3	3.0	4.8 13.0	14.0 15.8	14.1 15.9	14.7 17.0	17.0 17.0				
7. MAGR	1.4	3.4	4.0 6.7	4.5	4.8 13.7	14.2 15.3	17.0 17.0				
8. OPPO	17.0	2.5	3.0	3.6 12.9	3.9	4.3	14.4				
9. ORHY	2.1	3.5		14.0 15.2	14.1 15.9	14.5 17.0	17.0 17.0				
10. PECL	1.3		4.7 13.2	4.8 13.7	4.9 15.7	14.1 17.0	14.1 17.0				
11. PHHO	1.1	3.6 5.1	14.1 15.6	14.3 15.9	14.5 15.9	14.7 15.9	17.0 17.0				
12. POFE	2.4	4.2 7.1	14.2 13.6	14.3 15.1	14.3 15.9	14.5 17.0	17.0 17.0				
13. POSE	2.4		14.3 13.8	14.4 15.8	14.5 15.8	14.7 17.0	17.0 17.0				
14. SECA	17.0	3.4 6.1	14.8 15.8	14.9 15.9	14.9 15.9	17.0 17.0	17.0 17.0				
15. SELA	1.1	3.1 6.1	14.7 13.9	14.7 15.1	14.1 15.7	14.2 15.7	17.0 17.0				
16. SPCO	17.0	2.8	3.3	3.4	3.7	14.8					
17. STCO	1.5	3.5	14.0 13.5	14.1 15.9	14.1 15.9	14.5 17.0	17.0 17.0				
18. TRDU	17.0		4.8 13.7	14.2 15.2	14.8 15.8	14.9 15.9	17.0 17.0				
19. TRGY	17.0	3.3 6.2	4.4 13.6	14.1 15.2	14.5 15.7	17.0 17.0	17.0 17.0				
20. VIAM	17.0	3.7 6.3	14.0 13.4	14.3 15.2	14.3 15.7	14.8 15.8	17.0 17.0				
21. VIOLA	3.2	3.6 9.5	14.5 15.1	14.8 15.8	14.9 15.9	17.0 17.0	17.0 17.0				
22.											

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area Red Wash #2

1977

Type-site AGSM-AGSP-ARTR

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	20 Apr	20 May	6 June	27 June	15 July	15 Aug	9 Sept	4 Nov			
1. AGSM	1.4	2.4	3.2	3.4 6.0	3.6	16.3	16.4	17.0			
2. AGSP	17.0	3.1	3.4	3.7	3.8	16.2	16.4	16.9			
3. ALTE	17.0	3.0				14.9 15.9	14.9 15.9	17.0 17.0			
4. ARHO	17.0	2.3	3.3 5.1	14.3 9.1	14.4	16.1 13.9	16.2 15.9	16.4 15.9			
5. ARTR	17.0	2.5	3.3 5.0	3.5 5.2	3.7 5.4	3.9 5.8	4.2 8.2	4.9 5.3			
6. ASDI	17.0	3.0	3.2 5.4	3.4 6.3	3.6	3.8 11.0	14.1	14.6 17.0			
7. ASKE	17.0			3.1	3.2	3.4 6.1	3.5 6.3	14.8			
8. ASPU	17.0	3.1	3.4 8.4	14.2 13.6	14.3 15.1	14.5 15.7	14.9 15.9	17.0 17.0			
9. CHDO	17.0	2.7	2.9	2.9	3.1	3.2	4.2	19.7			
10. CHNA	17.0	2.3	2.7	3.5	3.7 6.3	3.8 9.5	4.3 11.2	14.4 15.9			
11. CHVI	17.0	2.5	2.8	3.2 5.9	3.4 6.3	3.7 8.7	4.3 10.2	14.6 15.9			
12. CORA	17.0										
13. CRFL	17.0	3.0	3.4 6.1	3.6 7.9	4.3 9.7	16.3 15.8	16.4 15.9	14.9 15.9			
14. CYMO		3.3		14.9 15.9	14.9 15.9	14.9 15.9	14.9 15.9	17.0 17.0			
15. ERAS	17.0	3.1 6.1	3.4 7.1	14.2 15.1	14.5 15.4	14.7 15.8	14.9 15.9	17.0 17.0			
16. ERFL	17.0										
17. ERMI	17.0	3.1	3.2	3.6 7.0	3.6 7.2	3.8 8.6	3.9 8.9	14.6 15.3			
18. EROV	17.0	2.4 5.1	3.0 7.1	14.0 13.6	14.1 15.1	16.1 15.8	16.1 15.9	17.0 17.0			
19. EULA	17.0	2.2	3.1	3.2	3.2	3.5	3.7	14.2 15.3			
20. GIAC	17.0										
21. GICO	17.0		3.5 8.0	14.1 13.6		16.2		16.3 17.0			
22. GRSP	17.0	3.0	3.2	3.4	14.2	14.3	14.4	14.3			

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Red Wash #2

1977

Type-site AGSM-AGSP-ARTR

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	20 Apr	20 May	6 June	27 June	15 July	15 Aug	9 Sept	4 Nov			
1. HAAC	17.0	2.7	3.0 5.5	14.0 15.1	14.1	14.1	14.2	16.9			
2. LEPU	17.0	2.4	3.0 5.5	3.5 9.1	14.1 9.5	14.3 13.6	16.0 15.7	16.9 15.9			
3. MACA	17.0						3.6 7.2				
4. MAGR	17.0										
5. OPPO	17.0	2.3	2.7 5.2	3.3 6.3	3.7 9.5	3.8 13.7	4.2 15.2	14.1 15.9			
6. ORFA	17.0						3.4 7.1	14.8 15.8			
7. ORHY	17.0	3.1	3.4	4.3 7.6	4.6 15.1	4.7 15.9	16.2 15.9	16.4 15.9			
8. PEN	0.5	3.1	3.3	5.5 3.6	9.9 4.9	4.9 13.9	4.9 15.7	14.1 15.9			
9. PHHO	17.0	3.1 6.3	3.3 6.5	14.2 15.2	14.6 15.6	16.0 15.9	16.2 15.9	16.9 15.9			
10. POSE	1.6						16.3 15.9	17.0 17.0			
11. SIHY	17.0										
12. SILI	17.0	3.4 6.1	14.1 9.5	14.3 15.1	14.4 15.3	14.6 15.8	16.4	14.9 15.9			
13. STCO	17.0	2.8	3.0	3.7	3.8	3.8	4.4	16.4			
14. TECA	17.0	2.6	3.0 5.0	3.4 6.1	3.5 6.5	3.7 9.5	4.1 10.8	14.3 15.7			
15. VIOLA		3.2	14.0	14.4		14.9 15.9	14.9 15.9	17.0 17.0			
16.											
17.											
18.											
19.											
20.											
21.											
22.											

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Shoshone #7 1977 Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	23 Apr	17 May	8 June	29 June	19 July	10 Aug	17 Sept	19 Nov			
1. AGSM	2.5	3.3	3.4	3.8 6.3	4.4	14.5	14.7	17.0 17.0			
2. ALTE		3.0 5.7	4.9 10.6	14.4	14.8 15.9	14.9 15.9	17.0 17.0				
3. ARTR	2.0	3.2	3.3 5.1	3.4 5.3	3.5 5.6	3.6 5.7	4.3 10.3	4.9 15.5			
4. BOGR	3.2	4.1	4.4	4.6	4.7	14.1	14.5				
5. BRTE		4.5 6.3	4.6 9.3	14.1 13.4	14.8 15.3	14.8 15.8	17.0 17.0				
6. CYMO		3.6 8.1	14.1 13.9	14.5 15.2	14.9 15.9	14.9 15.9	17.0 17.0				
7. DEPI		3.4 7.5	4.8 12.3	14.3 15.2	14.8 15.8	14.9 15.9	17.0 17.0				
8. ERPU			4.3 7.7	4.4 9.1	14.1 13.6	14.2 15.8	14.6 15.9				
9. MACA			3.3 8.4			4.2 12.3					
10. OPPO	1.0	2.7 5.1	3.3 7.0	3.5 13.5	3.8 13.8	4.3 15.2	4.7 15.6				
11. ORHY		3.5	4.9 7.3	14.0 12.7	14.1 15.6	14.3 15.7	14.8 15.9				
12. PHHO	1.2 5.7	3.0 5.7	3.6 9.8	3.7 12.2	14.6 13.9	14.7 15.9	14.8 15.9				
13. PIPA			3.8 7.6	14.1 13.3	14.4 15.1	14.5 15.5	14.8 15.8				
14. POSE	3.3	4.0 6.9	14.2 11.1	14.6 13.6	14.7 15.6	14.8 15.8	14.9 15.9				
15. SIHY		4.1 5.6	4.5 8.7	4.6 13.3	14.2 15.1	14.3 15.1	14.7 15.8				
16. SPCO		2.8	3.3 6.7	3.4 12.7	14.1 13.6	14.1 16.6	14.5				
17. STCO	2.8	3.5	4.5 6.6	4.7 13.4	14.1 15.3	14.1 15.9	14.7 15.9				
18.											
19.											
20.											
21.											
22.											

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area

Sweetwater

1977

Type-site ARTR-AGSM-ARNO

SPECIES IDENTIFICATION	VEG REPR 15 Apr	VEG REPR 18 May	VEG REPR 8 June	VEG REPR 29 June	VEG REPR 19 July	VEG REPR 10 Aug	VEG REPR 18 Sept	VEG REPR	VEG REPR	VEG REPR	VEG REPR
1. AGSM	2.0	3.3 5.2	3.7 5.7	3.8	4.0 12.3	4.4	16.4				
2. ARFR	1.9	3.1	3.4	3.5	3.7	3.8 5.8	3.8 10.2				
3. ARHO	1.3		3.4 7.1	14.1 10.0	14.7 15.8	14.9 15.9	14.9 15.9				
4. ARHO ²	1.1	3.3 6.7	14.3 13.4	14.9 15.9	14.9 15.9	16.3 15.9	16.4 15.9				
5. ARNO	1.3	2.9	3.1 5.0	3.2 5.2	3.5 5.5	3.7 5.7	4.5 11.6				
6. ARTR	1.1	2.8	3.3 5.1	3.3 5.2	3.5 5.5	3.7 5.8	4.5 11.3				
7. ASMI	1.3	2.7	3.3	3.7	4.2	4.3	4.5				
8. ASPU	1.3	2.8	4.1 12.1	14.0 13.8	14.3 15.2	14.9 15.9	14.7 15.9				
9. ASSP	1.3	3.0 5.0	3.4 7.8	14.0 11.3	14.2 15.6	16.0 15.9	16.4 15.9				
10. CAEL	2.3	3.3 6.1	14.2 13.1	14.3 13.8	14.4 15.2	16.1 15.6	16.4 15.7				
11. CAFI	2.3	3.3 6.1	14.2 13.1	14.3 13.8	14.4 15.2	16.1 15.6	16.3 15.7				
12. CHNA	1.1	2.4	3.3	3.4	3.7 6.0	3.7 7.1	14.2 11.4				
13. CHVI	17.0	2.7	3.4	3.6 5.5	4.2 6.2	4.2 7.3	4.5 10.6				
14. COPA	17.0	3.2 5.5	3.7 9.6	4.3 12.3	4.3 13.8	4.8 15.1	4.9 15.1				
15. CRBR	1.4	3.1 6.2	3.8 9.4	14.0 13.8	14.3 15.2	14.9 15.9	16.4 15.9				
16. CRFL	1.9	2.6	3.5 7.5	4.4 11.6	14.2 15.1	16.3 15.9	16.4 15.9				
17. CYMO	3.7	3.8 11.1	14.1 13.8	14.9 15.9	14.9 15.9	14.9 15.9	14.9 15.9				
18. DEGE	0.2	2.8	4.8 9.1	14.9 15.9	14.9 15.9	14.9 15.9	14.9 15.9				
19. EROV	0.2	3.0 5.3	3.4 7.1	4.9 13.2	14.1 15.6	16.0 15.7	16.0 15.8				
20. KOOR	2.3	4.1	4.5 6.8	14.1 13.3	14.5 15.6	16.3 15.9	16.4 15.3				
21. LEPU	1.8	2.8	3.3 6.1	4.5 9.8	14.1 13.8	16.0 15.3	16.4 15.6				
22. MAGR	17.0		3.2 5.6	3.6 6.2	3.8 13.1	3.8 13.9					

TABLE III. (continued)

PHENOLOGICAL INVENTORY

Study Area Sweetwater

1977

Type-site ARTR-ACSM-ARNO

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	15 Apr	18 May	8 June	29 June	19 July	10 Aug	18 Sept					
1. OPPO	1.0	2.6 5.0	3.2 5.6	3.4 9.6	3.8 12.5	3.9 12.8	3.9 15.3					
2. ORHY	2.0	3.3	3.8 6.4	14.0 11.0	14.2 15.8	16.2 15.9	16.7 15.9					
3. PEFR	1.1	3.0 5.6	3.6 7.7	4.0 13.8	4.3 15.2	4.4 15.9	4.4 15.9					
4. PHHO	2.5	3.3 6.1	3.5 7.8	14.2 13.7	14.3 15.8	16.1 15.9	14.8 15.9					
5. PSTE	17.0	2.4	3.1	4.6	4.7	4.7	14.1					
6. SPCO	17.0	2.5	3.6 6.7	3.6	3.6	3.6 5.2						
7. STCO	2.3	3.2	3.2 6.5	4.1 11.3	14.2 15.8	16.2 15.9	16.5 15.9					
8. TECA	0.5	2.8	3.3	3.6 5.7	3.8 8.0	3.8 9.7	3.8 12.6					
9. TOIN	3.3	5.4 3.4	6.2									
10. VIO		3.5 7.1	3.7 9.2	14.8 15.8	14.9 15.9	14.9 15.9	14.9 15.9					
11. ZYVE	1.4	3.5 6.7		14.8 15.6	14.8 15.8	14.9 15.9	14.9 15.9					
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												
21.												
22.												

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Upper Government Draw 1977 Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	23 Apr	18 May	8 June	28 June	19 July	10 Aug	6 Sept				
1. AGSM	3.1	3.4	3.7	4.4 10.2	4.9 12.5	14.5 13.4	16.3				
2. ALTE		3.0 5.7	14.1 9.8	14.8 15.9	14.9 15.9	14.9 15.9	14.9 15.9				
3. ANRO		3.1 6.1	4.1 13.2	14.2 15.9	14.3 15.9	14.8 15.9	14.9 15.9				
4. ARLI		3.7 10.1	14.1 15.2	14.8 15.8	14.8 15.8	16.0 15.9	16.1 15.9				
5. ARTR	1.8	3.2	3.3 5.1	3.4 5.3	3.6 5.6	3.7 6.3	4.3 7.6				
6. ASPU	2.3	3.6 8.1	3.9 11.8	14.2 13.1	14.3 15.7	14.8 15.8	14.9 15.9				
7. BOGR		4.1	4.3	4.5	4.8	4.9 6.2	14.1 9.3				
8. BRTE					14.2 13.8	14.8 15.8	14.9 15.9				
9. CAS	2.3	3.3 7.2	3.5 8.0	14.3 13.8	14.8 15.8	14.9 15.9	14.9 15.9				
10. CHVI	2.0	2.6	3.4	3.6	3.8 6.8	4.2 9.3	4.7 10.1				
11. CRMO	2.3	3.1 5.5	14.2 9.8	14.7 15.8	14.8 15.9	14.9 15.9	14.9 15.9				
12. CYMO	2.2	3.6 8.8	14.3 15.0	14.9 15.9	14.9 15.9	14.9 15.9	14.9 15.9				
13. ERPU	2.0	3.1 5.2	3.7 7.8	4.8 11.4	14.1 15.3	16.0 15.9	16.1 17.0				
14. KOGR	4.1	4.3 5.9	4.9 9.3	14.1 12.3	14.2 13.8	16.1 15.7	16.1 15.8				
15. LERE	2.4	3.3 5.5	3.7 7.6	14.6 11.3	14.8 15.2	14.9 15.9	14.9 15.9				
16. LOOR	2.7 6.8	3.5 8.7	14.1 12.6	14.9 15.9	14.9 15.9	14.9 15.9	14.9 15.9				
17. MACA		3.0 5.4	3.8 7.1	4.6 9.8	14.1 12.3	14.1 13.7	14.1 15.6				
18. OPPO	1.2	2.8 5.0	3.3 5.7	3.6 9.5	3.8 11.1	3.8 13.1	4.3 15.6				
19. PECL			3.4 6.7			4.3 13.5	4.6 15.2				
20. PHHO	2.3 5.7	3.1 8.8	3.6 13.2	14.2 15.0	14.4 15.8	16.0 15.9	16.0 15.9				
21. POSE	3.4	4.2 6.2	14.1 9.0	14.6 13.8	14.8 15.9	16.1 15.9	14.8 15.9				
22. SPCO	2.4	3.0 5.1	3.5 6.5	3.7 10.3	4.1 11.0	4.3 13.1	4.6				

TABLE III. (continued)

PHENOLOGICAL INVENTORY Study Area Upper Government Draw 1977Type-site ARTR-AGSM

SPECIES IDENTIFICATION	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR	VEG REPR
	23 Apr	18 May	8 June	28 June	19 July	10 Aug	6 Sept				
1. STCO	2.7	3.7	4.3 6.8	14.1 12.3	14.2 15.8	16.0 15.9	16.1 15.9				
2. TRDU		3.3 5.0	3.6 5.8	4.4 13.6			16.3 16.5				
3. VIAM		3.0 5.4	3.7 10.0	14.2 15.3	14.8 15.8	14.9 15.9	14.9 15.9				
4. VIO	2.7	3.3 7.1	4.4 12.2	14.6 15.8	14.8 15.8	14.9 15.9	14.9 15.9				
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
16.											
17.											
18.											
19.											
20.											
21.											
22.											

TABLE IV. Prime species intensive phenological inventory by enclosure, plant species, and data collection date for each permanently identified plant.

	<u>Page</u>
<u>Agropyron smithii</u>	
Bud Kimball Enclosure	42
Cumberland #3 "	50
Demer "	57
Farson "	64
Horse Creek "	72
Mesa Antelope "	79
Owl Draw "	87
Red Wash #2 "	92
Shoshone Ant #7 "	102
Sweetwater "	110
Upper Gov't Draw "	117
<u>Agropyron spicatum</u>	
Cedar Mountain Exc.	124
Cumberland #3 "	132
Demer "	139
Horse Creek "	146
Owl Draw "	153
Red Wash #2 "	160
<u>Artemisia nova</u>	
Horse Creek Enclosure	168
Owl Draw "	175
Sweetwater "	182
<u>Artemisia tridentata</u>	
Bud Kimball Enclosure	189
Cedar Mountain "	196
Cumberland #3 "	204
Demer "	211
Farson "	218
Horse Creek "	226
Mesa Antelope "	233
Owl Draw "	241
Red Wash #2 "	248
Shoshone Ant #7 "	256
Sweetwater "	264
Upper Gov't Draw "	271

AGROPYRON SMITHII

Study Area Bud Kimball

Date 23 April 77

42

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGT. cm	MAX. SPIKE HGT. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	2.2	---	.1	5.4	---	---	---	
2.	3.4	---	.1	6.5	---	---	---	
3.	2.8	---	.1	14.5	---	---	---	
4.	2.7	---	.2	11.7	---	---	---	
5.	1.0	---	.1	4.2	---	---	---	
6.	3.5	---	.2	8.5	---	---	---	
7.	3.2	---	.2	10.3	---	---	---	
8.	3.2	---	.2	8.0	---	---	---	
9.	2.6	---	.1	7.1	---	---	---	
10.	2.6	---	.2	7.8	---	---	---	
11.	2.6	---	.2	11.5	---	---	---	
12.	3.3	---	.2	8.2	---	---	---	
13.	2.4	---	.2	7.0	---	---	---	
14.	3.2	---	.2	11.5	---	---	---	
15.	3.3	---	.4	11.5	---	---	---	
16.	2.2	---	.1	5.0	---	---	---	
17.	2.6	---	.1	8.7	---	---	---	
18.	3.1	---	.1	7.5	---	---	---	EATEN
19.	3.3	---	.2	7.5	---	---	---	
20.	3.2	---	.3	14.2	---	---	---	

AGROPYRON SMITHIIStudy Area Bud KimballDate 17 May

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	2.7	--	.1	7	--	--	--	
2.	3.8	--	.2	17.5	--	--	--	
3.	4.4	--	.3	21	--	--	--	
4.	3.3	--	.3	23.2	--	--	--	
5.	2.6	--	.1	7	--	--	--	
6.	3.5	--	.2	14	--	--	--	
7.	3.2	--	.1	7.3	--	--	--	
8.	3.6	--	.2	10	--	--	--	
9.	3.3	--	.3	23	--	--	--	
10.	2.7	--	.2	14.5	--	--	--	
11.	4.2	--	.4	19.5	--	--	--	
12.	3.7	--	.3	16.5	--	--	--	EATEN
13.	4.1	--	.4	27.5	--	--	--	
14.	4.6	--	.3	21.0	--	--	--	
15.	4.3	--	.4	15	--	--	--	
16.	2.3	--	.2	8	--	--	--	
17.	3.2	--	.3	9.4	--	--	--	
18.	3.1	--	.2	14	--	--	--	
19.	4.2	--	.3	12	--	--	--	
20.	3.4	--	.2	20.7	--	--	--	

AGROPYRON SMITHII

Study Area Bud Kimball

Date 8 June 1977

44

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.3	--	0.3	19.0	--	--	--	
2.	3.7	--	0.2	18.0	--	--	--	
3.	4.6	--	0.4	42.5	--	--	--	
4.	3.8	--	0.3	28.0	--	--	--	
5.	3.2	--	0.2	12.0	--	--	--	
6.	3.8	--	0.2	20.0	--	--	--	
7.	3.2	--	0.1	8.0	--	--	--	
8.	4.1	--	0.4	30.5	--	--	--	
9.	3.5	--	0.2	23.2	--	--	--	
10.	3.1	--	0.2	26.2	--	--	--	
11.	4.3	--	0.4	26.5	--	--	--	
12.	3.7	--	0.3	20.0	--	--	--	
13.	4.2	--	0.4	29.0	--	--	--	
14.	4.7	5.2	0.4	26.0	--	--	--	
15.	4.8	6.2	0.4	26.0	--	--	--	
16.	2.5	--	0.1	8.5	--	--	--	
17.	3.2	--	0.3	14.0	--	--	--	
18.	3.1	--	0.2	15.2	--	--	--	
19.	4.5	--	0.3	15.1	--	--	--	
20.	3.5	--	0.2	22.0	--	--	--	

AGROPYRON SMITHII

Study Area Bud Kimball

Date 1 July 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.5	--	0.3	22.0	--	--	--	
2.	3.8	--	0.2	15.8	--	--	--	
3.	4.6	--	0.1	15.5	--	--	--	
4.	3.8	--	-.1	17.0	--	--	--	
5.	3.5	--	0.2	12.5	--	--	--	
6.	3.8	--	0.2	15.0	--	--	--	
7.	3.4	--	0.2	8.5	--	--	--	
8.	4.3	--	0.2	29.9	--	--	--	
9.	3.7	--	0.2	22.0	--	--	--	
10.	3.3	--	0.2	26.7	--	--	--	
11.	4.4	--	0.4	26.8	--	--	--	
12.	3.9	--	0.2	13.5	--	--	--	Lvs. Broken
13.	4.9	--	0.4	29.0	--	--	--	
14.	4.8	--	0.4	21.2	--	--	--	
15.	4.8	1.0	0.4	31.2	36.5	9.0	--	
16.	14.0	--	0.1	8.9	--	--	--	
17.	3.7	--	0.2	14.1	--	--	--	Lvs. Drying
18.	3.9	--	0.3	14.5	--	--	--	
19.	4.6	--	0.3	14.6	--	--	--	
20.	3.7	--	0.2	22.6	--	--	--	

AGROPYRON SMITHII

Study Area

Bud Kimball

Date

20 July 1977

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PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.8	--	0.3	17.5	--	--	--	Replacement
2.	4.2	--	0.2	18.0	--	--	--	
3.	4.7	--	0.2	32.0	--	--	--	
4.	4.4	--	0.2	18.5	--	--	--	
5.	3.7	--	0.2	12.0	--	--	--	
6.	3.8	--	0.2	16.0	--	--	--	
7.	3.8	--	0.2	8.5	--	--	--	
8.	4.2	--	0.3	30.5	--	--	--	
9.	3.8	--	0.2	21.0	--	--	--	
10.	3.3	--	0.2	16.5	--	--	--	
11.	4.3	--	0.3	26.5	--	--	--	
12.	4.5	--	0.2	19.5	--	--	--	
13.	14.2	--	.3	29	--	--	--	
14.	4.9	--	0.3	20.0	--	--	--	
15.	4.8	9.8	0.3	29.0	37.5	7.0	--	
16.	14.2	--	0.1	--	--	--	--	
17.	3.8	--	0.2	14.0	--	--	--	
18.	3.9	--	0.3	15.5	--	--	--	
19.	4.7	--	0.3	15.0	--	--	--	
20.	3.8	--	0.2	25.5	--	--	--	

AGROPYRON SMITHIIStudy Area Bud KimballDate 11 August 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.2	--	0.3	20.5	--	--	--	Damaged
2.	14.5	--	0.2	18.5	--	--	--	
3.	14.3	--	0.2	40.2	--	--	--	
4.	14.5	--	0.2	31.3	--	--	--	
5.	14.2	--	0.2	12.8	--	--	--	
6.	14.2	--	0.2	14.5	--	--	--	
7.	14.7	--	0.1	7.3	--	--	--	
8.	14.3	--	0.2	22.2	--	--	--	
9.	14.3	--	0.2	20.8	--	--	--	
10.	14.4	--	0.3	18.2	--	--	--	
11.	16.2	--	0.3	26.8	--	--	--	
12.	14.2	--	0.2	20.0	--	--	--	
13.	14.4	--	0.3	25.2	--	--	--	
14.	14.3	--	0.3	20.4	--	--	--	
15.	14.2	13.2	0.3	26.2	37.4	7.0	--	
16.	14.5	--	--	--	--	--	--	Damaged
17.	14.8	--	0.2	14.0	--	--	--	
18.	14.6	--	0.2	13.0	--	--	--	
19.	14.5	--	0.3	15.0	--	--	--	
20.	14.3	--	0.2	25.0	--	--	--	

AGROPYRON SMITHII

Study Area

Bud KimballDate 17 September 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.3	--	--	--	--	--	--	
2.	14.5	--	--	--	--	--	--	
3.	14.5	--	--	--	--	--	--	
4.	14.6	--	--	--	--	--	--	
5.	14.6	--	--	--	--	--	--	
6.	14.3	--	--	--	--	--	--	
7.	16.1	--	--	--	--	--	--	
8.	14.5	--	--	--	--	--	--	
9.	14.6	--	--	--	--	--	--	
10.	14.6	--	--	--	--	--	--	
11.	16.2	--	--	--	--	--	--	
12.	16.4	--	--	--	--	--	--	
13.	14.6	--	--	--	--	--	--	
14.	14.6	--	--	--	--	--	--	
15.	16.3	13.9	--	--	37.4	7.0	--	
16.	14.8	--	--	--	--	--	--	
17.	14.6	--	--	--	--	--	--	
18.	14.6	--	--	--	--	--	--	
19.	14.5	--	--	--	--	--	--	
20.	14.6	--	--	--	--	--	--	

PLANT NO.	PHENO. STAGE	SCORE	MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	2.2	--	.1	2.0	--	--	1	
2.	3.0	--	.2	11.0	--	--	2	
3.	3.1	--	.2	7.5	--	--	1	
4.	3.5	--	.2	13.1	--	--	1	
5.	17.0	--	--	--	--	--	--	
6.	3.0	--	.1	7.2	--	--	1	
7.	3.3	--	.2	3.0	--	--	2	
8.	3.2	--	.2	18.0	--	--	1	
9.	17.0	--	--	--	--	--	--	
10.	2.8	--	.1	7.0	--	--	1	
11.	2.5	--	.1	11.0	--	--	1	
12.	3.2	--	.1	9.5	--	--	2	
13.	3.2	--	.1	13.0	--	--	1	
14.	3.3	--	.2	13.1	--	--	1	New Plant
15.	2.8	--	.1	7.5	--	--	1	
16.	3.3	--	.1	8.2	--	--	2	
17.	3.6	--	.2	13.5	--	--	1	New Plant
18.	3.3	--	.2	10.0	--	--	2	New Plant
19.	3.7	--	.2	15.0	--	--	2	
20.	2.1	--	.1	4.5	--	--	1	

AGROPYRON SMITHII

Study Area Cumberland 3

Date 7 June 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	3.1	--	.1	11.0	--	--	
2.	3.4	--	.2	12.0	--	--	
3.	4.4	--	.2	19.0	--	--	
4.	3.5	--	.2	27.0	--	--	
5.	3.7	--	.2	16.0	--	--	
6.	3.2	--	.1	7.5	--	--	
7.	3.5	--	.2	9.0	--	--	
8.	3.8	--	.2	23.0	--	--	
9.	2.7	--	.2	15.0	--	--	
10.	3.4	--	.1	11.0	--	--	
11.	2.6	--	.1	12.0	--	--	
12.	3.2	--	.1	10.5	--	--	
13.	4.2	--	.1	21.0	--	--	
14.	3.4	--	.2	15.5	--	--	
15.	3.6	--	.1	13.2	--	--	
16.	3.4	--	.1	12.0	--	--	
17.	4.2	--	.2	17.7	--	--	
18.	3.5	--	.2	16.0	--	--	
19.	4.1	--	.2	18.0	--	--	
20.	2.8	--	.1	5.0	--	--	

ACROPYRON SMITHIIStudy Area Cumberland 3Date 28 June 1977

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PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.3	--	.2	16.7	--	--		
2.	3.4	--	.2	12.0	--	--		Damaged
3.	4.8	--	.2	14.4	--	--		
4.	3.5	--	.2	27.6	--	--		
5.	3.7	--	.2	17.5	--	--		
6.	3.5	--	.1	12.9	--	--		
7.	3.7	--	.2	9.6	--	--		
8.	3.9	--	.2	22.5	--	--		
9.	3.6	--	.2	19.0	--	--		
10.	14.1	--	.2	11.1	--	--		
11.	2.7	--	.1	10.4	--	--		
12.	4.4	--	.1	12.6	--	--		
13.	4.3	--	.1	18.5	--	--		
14.	14.2	--	.2	17.1	--	--		
15.	3.7	--	.1	10.2	--	--		
16.	4.5	--	.1	14.0	--	--		
17.	4.4	--	.2	18.5	--	--		
18.	3.5	--	.2	19.5	--	--		
19.	4.2	--	.2	17.0	--	--		
20.	3.6	--	.1	6.5	--	--		

AGROPYRON SMITHIIStudy Area Cumberland 3Date 20 July 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.4	--	.2	12.0	--	--		
2.	3.4	--	.2	11.0	--	--		
3.	4.8	--	.2	14.4	--	--		
4.	3.7	--	.2	22.5	--	--		
5.	3.9	--	.2	17.1	--	--		
6.	3.7	--	.1	15.1	--	--		
7.	3.5	--	.2	11.3	--	--		
8.	3.9	--	.2	16.8	--	--		
9.	3.7	--	.2	14.3	--	--		
10.	14.5	--	--	--	--	--		Damaged
11.	14.2	--	.1	12.0	--	--		
12.	14.0	--	.1	14.6	--	--		
13.	4.5	--	.1	19.3	--	--		
14.	14.2	--	.1	15.0	--	--		
15.	3.7	--	.1	17.5	--	--		
16.	4.9	--	.1	14.3	--	--		
17.	4.5	--	.2	21.1	--	--		
18.	4.2	--	.2	16.5	--	--		
19.	4.3	--	.2	15.8	--	--		
20.	3.7	--	.1	6.5	--	--		

ACROPYRON SMITHIIStudy Area Cumberland #3Date 9 August 1977

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PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.7	--	.2	8.7	--	--		
2.	14.2	--	.2	12.5	--	--		
3.	14.2	--	.2	13.5	--	--		
4.	3.9	--	.2	16.0	--	--		
5.	14.5	--	.2	17.2	--	--		
6.	14.6	--	.2	13.4	--	--		
7.	3.9	--	.2	14.9	--	--		
8.	14.1	--	.2	23.6	--	--		
9.	14.1	--	.2	17.5	--	--		
10.	14.7	--	.2	11.0	--	--		
11.	14.6	--	.1	11.5	--	--		
12.	14.2	--	.1	14.2	--	--		
13.	4.9	--	.1	16.3	--	--		
14.	14.3	--	.1	19.3	--	--		
15.	3.9	--	.1	13.6	--	--		
16.	14.0	--	.2	14.2	--	--		
17.	14.0	--	.2	22.2	--	--		
18.	14.2	--	.2	19.0	--	--		
19.	14.5	--	.2	17.3	--	--		
20.	14.6	--	.1	6.4	--	--		

AGROPYRON SMITHII

Study Area Cumberland #3

Date 8 September 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	16.4	--	.2	12.5	--	--	2
2.	16.3	--	.2	13.5	--	--	1
3.	16.3	--	.2	14.2	--	--	2
4.	16.4	--	.2	13.4	--	--	2
5.	16.3	--	.2	16.0	--	--	1
6.	16.2	--	.2	9.5	--	--	1
7.	16.4	--	.2	14.2	--	--	1
8.	16.3	--	.2	20.4	--	--	1
9.	16.3	--	.2	19.0	--	--	1
10.	16.4	--	.2	7.5	--	--	1
11.	16.3	--	.2	10.8	--	--	3
12.	16.4	--	.2	12.4	--	--	4
13.	16.4	--	.2	14.2	--	--	1
14.	16.4	--	.2	19.0	--	--	2
15.	16.3	--	.2	15.5	--	--	1
16.	16.4	--	.2	13.0	--	--	4
17.	16.4	--	.2	22.5	--	--	2
18.	16.4	--	.2	18.0	--	--	3
19.	16.4	--	.2	19.2	--	--	1
20.	16.3	--	.1	4.2	--	--	1

AGROPYRON SMITHIIStudy Area Cumberland #3Date 5 November 1977

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PLANT NO.	PHENO. STAGE	SCORE	MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	16.5	---	---	---	---	---		
2.	17.0	---	---	---	---	---		
3.	16.8	---	---	---	---	---		
4.	16.5	---	---	---	---	---		
5.	16.5	---	---	---	---	---		
6.	16.6	---	---	---	---	---		Regreening & regrowth seen
7.	16.7	---	---	---	---	---		
8.	16.7	---	---	---	---	---		
9.	17.0	---	---	---	---	---		
10.	16.5	---	---	---	---	---		
11.	17.0	---	---	---	---	---		
12.	16.6	---	---	---	---	---		
13.	16.6	---	---	---	---	---		
14.	17.0	---	---	---	---	---		
15.	16.6	---	---	---	---	---		
16.	16.6	---	---	---	---	---		
17.	16.7	---	---	---	---	---		
18.	16.6	---	---	---	---	---		
19.	16.7	---	---	---	---	---		
20.	17.0	---	---	---	---	---		

AGROPYRON SMITHII

Study Area DEMER

Date 23 April 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	2.2	---	.1	6.6	---	---	---	
2.	3.2	---	.2	7.6	---	---	---	
3.	3.1	---	.2	---	---	---	---	Top eaten
4.	3.1	---	.1	7.5	---	---	---	
5.	2.7	---	.1	9.2	---	---	---	
6.	2.6	---	.1	9.2	---	---	---	
7.	3.2	---	.2	12.2	---	---	---	
8.	2.5	---	.1	9.5	---	---	---	
9.	2.3	---	.1	5.7	---	---	---	
10.	3.2	---	.1	10.0	---	---	---	
11.	3.2	---	.1	9.0	---	---	---	
12.	2.7	---	.1	9.4	---	---	---	
13.	3.4	---	.1	---	---	---	---	Top eaten
14.	3.2	---	.1	6.0	---	---	---	
15.	2.3	---	.1	4.0	---	---	---	
16.	3.3	---	.1	12.2	---	---	---	
17.	3.3	---	.1	9.5	---	---	---	
18.	2.4	---	.1	7.0	---	---	---	
19.	3.4	---	.1	7.0	---	---	---	
20.	3.1	---	.1	10.5	---	---	---	

AGROPYRON SMITHII

Study Area DEMER

Date 17 May 1977

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PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.2	--	0.1	6.0	--	--	--	
2.	3.2	--	0.2	11.2	--	--	--	
3.	3.2	--	0.2	11.6	--	--	--	
4.	3.4	--	0.1	14.0	--	--	--	
5.	3.3	--	0.2	16.4	--	--	--	
6.	3.3	--	0.2	12.0	--	--	--	
7.	3.4	--	0.2	22.0	--	--	--	
8.	3.1	--	0.1	9.7	--	--	--	
9.	3.3	--	0.1	12.2	--	--	--	
10.	3.2	--	0.1	12.1	--	--	--	
11.	3.2	--	0.1	16.5	--	--	--	
12.	3.1	--	0.1	12.0	--	--	--	
13.	3.3	--	0.1	12.0	--	--	--	
14.	3.6	--	0.2	14.9	--	--	--	
15.	3.6	--	0.1	4.0	--	--	--	
16.	3.3	--	0.1	10.2	--	--	--	
17.	3.3	--	0.2	17.0	--	--	--	
18.	3.3	--	0.1	7.5	--	--	--	
19.	3.4	--	0.1	13.1	--	--	--	
20.	3.3	--	0.1	12.1	--	--	--	

AGROPYRON SMITHII

Study Area

Demer

Date

9 June 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.3	--	0.1	6.0	--	--	--	Eaten
2.	3.3	--	0.2	11.5	--	--	--	
3.	3.2	--	0.2	12.3	--	--	--	
4.	3.9	--	0.1	10.2	--	--	--	
5.	3.9	--	0.2	19.1	--	--	--	
6.	3.3	--	0.2	13.5	--	--	--	
7.	3.5	--	0.2	25.1	--	--	--	
8.	3.2	--	0.1	13.5	--	--	--	
9.	3.3	--	0.1	6.1	--	--	--	
10.	3.3	--	0.1	13.3	--	--	--	
11.	3.5	--	0.1	16.1	--	--	--	
12.	3.3	--	0.1	12.0	--	--	--	
13.	3.3	--	0.1	19.0	--	--	--	
14.	4.2	--	0.2	17.0	--	--	--	
15.	3.5	--	0.1	7.9	--	--	--	
16.	3.9	--	0.1	18.5	--	--	--	
17.	3.4	--	0.2	12.0	--	--	--	
18.	3.7	--	0.1	9.8	--	--	--	
19.	3.7	--	0.1	12.3	--	--	--	
20.	3.1	--	0.1	13.0	--	--	--	

AGROPYRON SMITHII

Study Area DEMER

Date 30 June 1977

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PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.4	--	0.1	8.7	--	--	--	Leaves broken
2.	14.3	--	0.2	11.0	--	--	--	
3.	14.4	--	0.2	7.6	--	--	--	
4.	3.7	--	0.2	15.1	--	--	--	
5.	14.3	--	0.2	17.0	--	--	--	
6.	4.6	--	0.2	14.5	--	--	--	
7.	3.8	--	0.3	13.0	--	--	--	Eaten
8.	3.9	--	0.1	12.6	--	--	--	
9.	14.3	--	0.1	13.2	--	--	--	
10.	3.7	--	0.1	12.2	--	--	--	
11.	3.8	--	0.1	12.4	--	--	--	
12.	14.2	--	0.1	11.5	--	--	--	
13.	3.9	--	0.2	23.8	--	--	--	
14.	4.8	--	0.2	12.5	--	--	--	
15.	4.2	--	0.1	8.4	--	--	--	
16.	3.9	--	0.2	18.5	--	--	--	Eaten
17.	4.6	--	0.2	14.6	--	--	--	
18.	3.7	--	0.1	10.7	--	--	--	
19.	4.2	--	0.2	10.8	--	--	--	
20.	4.2	--	0.2	13.3	--	--	--	

AGROPYRON SMITHII

Study Area DEMER

Date 20 July 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.2	--	0.1	8.7	--	--	--
2.	14.2	--	0.2	11.0	--	--	--
3.	14.4	--	0.2	7.6	--	--	--
4.	14.3	--	0.2	15.1	--	--	--
5.	14.3	--	0.2	17.0	--	--	--
6.	14.1	--	0.2	14.5	--	--	--
7.	4.8	--	0.3	13.0	--	--	--
8.	14.1	--	0.1	12.6	--	--	--
9.	14.2	--	0.1	13.2	--	--	--
10.	14.2	--	0.1	12.2	--	--	--
11.	14.3	--	0.1	12.4	--	--	--
12.	14.3	--	0.1	11.5	--	--	--
13.	14.3	--	0.2	23.8	--	--	--
14.	14.1	--	0.2	12.5	--	--	--
15.	4.8	--	0.1	8.4	--	--	--
16.	14.3	--	0.2	18.5	--	--	--
17.	4.7	--	0.2	14.6	--	--	--
18.	14.2	--	0.1	10.7	--	--	--
19.	4.7	--	0.2	10.8	--	--	--
20.	4.8	--	0.2	13.3	--	--	--

AGROPYRON SMITHII

Study Area

DEMER

Date 11 August 1977

62

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.5	--	0.1	8.7	--	--	--	
2.	14.4	--	0.2	11.0	--	--	--	
3.	14.4	--	0.2	7.6	--	--	--	
4.	14.9	--	0.2	15.1	--	--	--	
5.	14.5	--	0.2	17.0	--	--	--	
6.	14.8	--	0.2	14.5	--	--	--	
7.	4.8	--	0.3	13.0	--	--	--	
8.	14.5	--	0.1	12.6	--	--	--	
9.	14.5	--	0.1	13.2	--	--	--	
10.	14.5	--	0.1	12.2	--	--	--	
11.	14.6	--	0.1	12.4	--	--	--	
12.	14.9	--	0.1	11.5	--	--	--	
13.	14.7	--	0.2	23.8	--	--	--	
14.	14.5	--	0.2	12.5	--	--	--	
15.	14.0	--	0.1	8.5	--	--	--	
16.	14.5	--	0.2	18.5	--	--	--	
17.	14.3	--	0.2	14.6	--	--	--	
18.	14.6	--	0.1	10.7	--	--	--	
19.	14.2	--	0.2	10.8	--	--	--	
20.	14.8	--	0.2	13.3	--	--	--	

AGROPYRON SMITHII

Study Area

DEMER

Date 17 September 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	14.7	--	--	--	--	--	--
2.	14.7	--	--	--	--	--	--
3.	14.9	--	--	--	--	--	--
4.	14.8	--	--	--	--	--	--
5.	14.8	--	--	--	--	--	--
6.	14.9	--	--	--	--	--	--
7.	14.9	--	--	--	--	--	--
8.	14.8	--	--	--	--	--	--
9.	14.9	--	--	--	--	--	--
10.	14.9	--	--	--	--	--	--
11.	14.9	--	--	--	--	--	--
12.	14.9	--	--	--	--	--	--
13.	14.8	--	--	--	--	--	--
14.	14.9	--	--	--	--	--	--
15.	14.8	--	--	--	--	--	--
16.	14.9	--	--	--	--	--	--
17.	14.8	--	--	--	--	--	--
18.	14.9	--	--	--	--	--	--
19.	14.8	--	--	--	--	--	--
20.	14.8	--	--	--	--	--	--

AGROPYRON SMITHII

Study Area FarsonDate 21 April 1977

69

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	17.0	--	--	--	--	--	--	
2.	1.4	--	0.2	6.1	--	--	1	
3.	17.0	--	--	--	--	--	--	
4.	17.0	--	--	--	--	--	--	
5.	17.0	--	--	--	--	--	--	
6.	17.0	--	--	--	--	--	--	
7.	17.0	--	--	--	--	--	--	
8.	17.0	--	--	--	--	--	--	
9.	17.0	--	--	--	--	--	--	
10.	1.4	--	0.1	2.0	--	--	1	
11.	17.0	--	--	--	--	--	--	
12.	17.0	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	--	
14.	17.0	--	--	--	--	--	--	
15.	1.2	--	0.1	2.1	--	--	1	
16.	17.0	--	--	--	--	--	--	
17.	1.2	--	0.1	2.0	--	--	1	
18.	17.0	--	--	--	--	--	--	
19.	17.0	--	--	--	--	--	--	
20.	17.0	--	--	--	--	--	--	

AGROPYRON SMITHII

Study Area Farson

Date 18 May 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	17.0	--	--	--	--	--	--
2.	1.4	--	0.1	1.8	--	--	--
3.	1.4	--	0.1	5.0	--	--	--
4.	1.7	--	0.1	9.5	--	--	--
5.	17.0	--	--	--	--	--	--
6.	17.0	--	--	--	--	--	--
7.	17.0	--	--	--	--	--	--
8.	1.3	--	0.1	5.0	--	--	--
9.	1.3	--	0.1	3.5	--	--	--
10.	1.4	--	0.1	11.0	--	--	--
11.	17.0	--	--	--	--	--	--
12.	17.0	--	--	--	--	--	--
13.	17.0	--	--	--	--	--	--
14.	17.0	--	--	--	--	--	--
15.	1.3	--	0.1	5.0	--	--	--
16.	17.0	--	--	--	--	--	--
17.	17.0	--	--	--	--	--	--
18.	1.3	--	0.1	5.0	--	--	--
19.	17.0	--	--	--	--	--	--
20.	17.0	--	--	--	--	--	--

AGROPYRON SMITHII

Study Area FarsonDate 7 June 1977

69

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	17.0	--	--	--	--	--	--	
2.	1.5	--	0.1	5.4	--	--	--	
3.	2.4	--	0.1	4.7	--	--	--	
4.	2.4	--	0.1	6.5	--	--	--	
5.	17.0	--	--	--	--	--	--	
6.	17.0	--	--	--	--	--	--	
7.	1.6	--	0.1	3.0	--	--	--	(35'7")
8.	1.8	--	0.1	7.0	--	--	--	
9.	1.3	--	0.1	3.2	--	--	--	
10.	1.7	--	0.1	9.2	--	--	--	
11.	17.0	--	--	--	--	--	--	
12.	17.0	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	--	
14.	17.0	--	--	--	--	--	--	
15.	1.3	--	0.1	4.1	--	--	--	
16.	17.0	--	--	--	--	--	--	
17.	2.3	--	0.1	7.0	--	--	--	
18.	1.2	--	0.1	2.6	--	--	--	
19.	1.2	--	0.1	2.2	--	--	--	
20.	17.0	--	--	--	--	--	--	

ACROPYRON SMITHII

Study Area Farson

Date 28 June 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	17.0	--	--	--	--	--	--	
2.	1.6	--	0.1	3.4	--	--	--	
3.	14.2	--	0.1	4.1	--	--	--	
4.	2.7	--	0.1	10.5	--	--	--	
5.	17.0	--	--	--	--	--	--	
6.	17.0	--	--	--	--	--	--	(New plants
7.	2.6	--	0.1	8.5	--	--	--	not located)
8.	2.2	--	0.1	7.2	--	--	--	
9.	14.0	--	0.1	3.2	--	--	--	
10.	1.9	--	0.1	9.2	--	--	--	
11.	17.0	--	--	--	--	--	--	
12.	17.0	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	--	
14.	17.0	--	--	--	--	--	--	
15.	14.2	--	0.1	5.0	--	--	--	
16.	17.0	--	--	--	--	--	--	
17.	2.9	--	0.1	6.0	--	--	--	
18.	14.0	--	0.1	2.6	--	--	--	
19.	14.0	--	0.1	2.2	--	--	--	
20.	17.0	--	--	--	--	--	--	

AGROPYRON SMITHII

Study Area FarsonDate 20 July 1977

68

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	17.0	--	--	--	--	--	--	
2.	1.8	--	0.1	3.4	--	--	--	
3.	14.5	--	0.1	4.1	--	--	--	
4.	2.7	--	0.1	10.3	--	--	--	
5.	17.0	--	--	--	--	--	--	
6.	17.0	--	--	--	--	--	--	
7.	14.5	--	0.1	8.5	--	--	--	
8.	2.2	--	0.1	10.4	--	--	--	
9.	14.8	--	0.1	3.2	--	--	--	
10.	14.8	--	0.1	9.2	--	--	--	
11.	17.0	--	--	--	--	--	--	
12.	17.0	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	--	
14.	17.0	--	--	--	--	--	--	
15.	14.8	--	0.1	5.0	--	--	--	
16.	17.0	--	--	--	--	--	--	
17.	14.8	--	0.1	6.0	--	--	--	
18.	14.8	--	0.1	2.6	--	--	--	
19.	14.8	--	0.1	2.2	--	--	--	
20.	17.0	--	--	--	--	--	--	(Pl. gone)

AGROPYRON SMITHII

Study Area Farson

Date 10 August 1977

PLANT NO.	PHENO. STAGE	SCORE	MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	17.0	--	--	--	--	--	--	
2.	3.6	--	0.1	23.0	--	--	--	
3.	16.3	--	0.1	8.0	--	--	--	
4.	4.4	--	0.2	14.8	--	--	--	
5.	16.4	--	0.2	9.0	--	--	--	
6.	17.0	--	--	--	--	--	--	
7.	16.4	--	0.2	9.5	--	--	--	
8.	4.1	--	0.1	9.5	--	--	--	
9.	16.1	--	0.1	3.0	--	--	--	
10.	16.4	--	0.2	11.1	--	--	--	
11.	16.2	--	0.2	7.0	--	--	--	
12.	17.0	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	--	
14.	16.5	--	0.1	15.1	--	--	--	
15.	16.4	--	0.2	9.3	--	--	--	
16.	16.2	--	0.2	6.5	--	--	--	
17.	16.4	--	0.2	13.0	--	--	--	
18.	14.8	--	0.1	2.6	--	--	--	
19.	14.8	--	0.1	2.3	--	--	--	
20.	16.5	--	0.3	14.5	--	--	--	

AGROPYRON SMITHII ; _____ Study Area FarsonDate 6 September 1977

70

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	17.0	--	--	--	--	--	1	
2.	3.7	--	0.2	11.3	--	--	1	
3.	16.3	--	0.2	0.7	--	--	1	
4.	4.7	--	0.3	15.0	--	--	2	
5.	16.4	--	0.3	11.2	--	--	1	
6.	17.0	--	--	--	--	--	--	
7.	17.0	--	--	--	--	--	--	
8.	4.2	--	0.2	10.0	--	--	2	
9.	16.3	--	0.2	6.0	--	--	1	
10.	16.4	--	0.2	11.5	--	--	2	
11.	16.2	--	0.2	15.0	--	--	1	
12.	17.0	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	1	
14.	16.3	--	0.2	13.0	--	--	--	
15.	16.3	--	0.2	11.7	--	--	2	
16.	16.2	--	0.2	9.4	--	--	2	
17.	16.3	--	0.1	10.2	--	--	3	
18.	16.3	--	0.1	9.7	--	--	3	
19.	16.2	--	0.1	4.6	--	--	1	
20.	16.4	--	0.3	17.0	--	--	1	

AGROPYRON SMITHII

Study Area FarsonDate 6 November 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	17.0	--	--	--	--	--	--	
2.	16.7	--	--	--	--	--	--	
3.	16.6	--	--	--	--	--	--	(eaten)
4.	16.9	--	--	--	--	--	--	
5.	16.8	--	--	--	--	--	--	
6.	17.0	--	--	--	--	--	--	
7.	17.0	--	--	--	--	--	--	
8.	16.8	--	--	--	--	--	--	
9.	16.7	--	--	--	--	--	--	
10.	16.8	--	--	--	--	--	--	
11.	16.9	--	--	--	--	--	--	
12.	17.0	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	--	
14.	16.7	--	--	--	--	--	--	
15.	16.8	--	--	--	--	--	--	
16.	16.6	--	--	--	--	--	--	
17.	16.9	--	--	--	--	--	--	
18.	16.8	--	--	--	--	--	--	
19.	16.7	--	--	--	--	--	--	
20.	16.6	--	--	--	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.2	--	0.2	11.7	--	--	--	(Repl.)
2.	3.2	--	0.3	13.6	--	--	--	
3.	3.4	--	0.2	10.5	--	--	--	
4.	2.7	--	0.1	10.5	--	--	--	
5.	2.7	--	0.2	9.2	--	--	--	
6.	2.7	--	0.3	8.7	--	--	--	
7.	3.2	--	0.3	14.6	--	--	--	
8.	3.4	--	0.3	11.5	--	--	--	
9.	3.5	--	0.3	11.5	--	--	--	
10.	2.1	--	0.3	12.5	--	--	--	
11.	3.4	--	0.2	7.1	--	--	--	
12.	3.4	--	0.3	15.0	--	--	--	
13.	3.4	--	0.3	17.5	--	--	--	
14.	3.5	--	0.3	15.3	--	--	--	
15.	3.2	--	0.2	10.3	--	--	--	
16.	2.9	--	0.2	15.1	--	--	--	
17.	3.3	--	0.3	10.7	--	--	--	
18.	3.2	--	0.3	10.9	--	--	--	
19.	3.5	--	0.3	14.2	--	--	--	
20.	3.9	--	0.3	10.6	--	--	--	

ACROPYRON SMITHII

Study Area Horsecreek

Date 17 May 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.2	--	0.4	20.0	--	--	--	
2.	4.2	--	0.3	22.0	--	--	--	
3.	3.9	--	0.3	20.2	--	--	--	
4.	3.7	--	0.2	21.8	--	--	--	
5.	4.2	--	0.3	16.0	--	--	--	
6.	3.5	--	0.3	14.5	--	--	--	
7.	3.7	--	0.2	16.2	--	--	--	
8.	4.2	--	0.3	21.4	--	--	--	
9.	4.2	--	0.3	18.1	--	--	--	
10.	3.3	--	0.3	15.2	--	--	--	
11.	4.1	--	0.3	24.4	--	--	--	
12.	4.2	--	0.3	14.2	--	--	--	
13.	4.0	--	0.3	21.6	--	--	--	
14.	4.1	--	0.3	13.1	--	--	--	
15.	3.5	--	0.2	10.5	--	--	--	
16.	3.7	--	0.2	15.0	--	--	--	
17.	3.3	--	0.2	13.2	--	--	--	
18.	4.1	--	0.3	18.7	--	--	--	
19.	4.1	--	0.3	17.0	--	--	--	
20.	3.8	--	0.3	12.6	--	--	--	

ACROPYRON SMITHII

Study Area Horsecreek

Date 9 June 1977

74

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.6	--	0.4	20.6	--	--	--	
2.	4.4	--	0.3	23.3	--	--	--	
3.	4.3	--	0.3	19.0	--	--	--	
4.	4.2	--	0.2	19.3	--	--	--	
5.	4.3	--	0.3	18.4	--	--	--	
6.	4.3	--	0.3	17.0	--	--	--	
7.	4.2	--	0.2	15.0	--	--	--	
8.	4.3	--	0.3	18.2	--	--	--	
9.	4.7	--	0.3	13.2	--	--	--	
10.	3.7	--	0.3	15.2	--	--	--	
11.	4.4	--	0.3	34.5	--	--	--	
12.	4.6	--	0.3	15.4	--	--	--	
13.	4.2	--	0.3	23.6	--	--	--	
14.	4.4	--	0.3	20.0	--	--	--	
15.	4.1	--	0.2	17.5	--	--	--	
16.	3.8	--	0.2	19.5	--	--	--	
17.	4.1	--	0.2	17.5	--	--	--	
18.	4.2	--	0.2	19.5	--	--	--	
19.	4.3	--	0.2	19.4	--	--	--	
20.	4.3	--	0.2	15.0	--	--	--	

AGROPYRON SMITHII

Study Area Horsecreek

Date 30 June 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.7	---	0.4	14.2	---	---	---	
2.	4.4	---	0.3	19.0	---	---	---	
3.	4.3	---	0.2	17.5	---	---	---	
4.	4.6	---	0.2	20.4	---	---	---	
5.	4.4	---	0.2	17.0	---	---	---	
6.	4.3	---	0.2	17.2	---	---	---	
7.	4.2	---	0.2	21.0	---	---	---	
8.	4.3	---	0.2	17.7	---	---	---	
9.	4.9	---	0.1	13.5	---	---	---	Bottom leaves gone
10.	3.8	---	0.2	15.2	---	---	---	
11.	4.4	---	0.2	31.5	---	---	---	
12.	4.8	---	0.2	13.4	---	---	---	
13.	4.9	---	0.2	15.5	---	---	---	Bottom leaves gone
14.	4.6	---	0.2	12.4	---	---	---	
15.	4.3	---	0.2	12.9	---	---	---	
16.	3.7	---	0.2	15.7	---	---	---	
17.	4.1	---	0.1	13.1	---	---	---	
18.	4.3	---	0.2	15.5	---	---	---	
19.	4.9	---	0.1	16.5	---	---	---	Bottom leaves gone
20.	4.6	---	0.2	15.5	---	---	---	

AGROPYRON SMITHII

Study Area HorsecreekDate 20 July 1977

76

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGT. cm	MAX. SPIKE HGT. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	4.8	--	0.3	20.0	--	--	--
2.	4.8	--	0.3	23.0	--	--	--
3.	4.6	--	0.3	26.0	--	--	--
4.	4.7	--	0.3	14.5	--	--	--
5.	4.9	--	0.3	16.0	--	--	--
6.	4.6	--	0.2	16.0	--	--	--
7.	4.3	--	0.3	21.0	--	--	--
8.	4.3	--	0.2	17.5	--	--	--
9.	4.8	--	0.2	18.0	--	--	--
10.	3.9	--	0.3	13.0	--	--	--
11.	14.2	--	--	--	--	--	--
12.	14.2	--	--	--	--	--	--
13.	14.2	--	--	--	--	--	--
14.	4.8	--	0.3	18.5	--	--	--
15.	4.6	--	0.2	11.0	--	--	--
16.	4.6	--	0.3	17.0	--	--	--
17.	4.1	--	0.2	22.0	--	--	--
18.	4.5	--	0.3	20.5	--	--	--
19.	14.2	--	--	--	--	--	--
20.	14.2	--	--	--	--	--	--

AGROPYRON SMITHII

Study Area Horsecreek

Date 11 August 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.8	--	0.3	20.0	--	--	--	
2.	4.9	--	0.3	23.0	--	--	--	
3.	4.9	--	0.2	26.5	--	--	--	
4.	14.6	--	0.2	22.5	--	--	--	
5.	14.6	--	0.2	16.0	--	--	--	
6.	14.8	--	0.2	16.0	--	--	--	
7.	14.4	--	0.2	21.0	--	--	--	
8.	14.8	--	0.2	21.0	--	--	--	
9.	14.2	--	0.2	18.5	--	--	--	
10.	14.5	--	0.2	13.5	--	--	--	
11.	14.5	--	0.2	17.5	--	--	--	
12.	14.7	--	0.2	14.0	--	--	--	
13.	14.5	--	0.2	19.0	--	--	--	
14.	14.7	--	0.1	14.0	--	--	--	
15.	14.7	--	0.1	10.0	--	--	--	
16.	14.8	--	0.1	15.0	--	--	--	
17.	14.8	--	0.1	12.5	--	--	--	
18.	14.8	--	0.2	20.0	--	--	--	
19.	14.7	--	0.2	16.8	--	--	--	
20.	14.7	--	0.2	14.0	--	--	--	

AGROPYRON SMITHII

Study Area Horsecreek

Date 17 September 1977

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PLANT NO.	PHENO. STAGE	SCORE	MAX. LEAF	MAX. LEAF	MAX. SPIKE	NOS. SPIKE-	NOS. OF
	VEG.	REPR.	WIDTH cm	HGTH. cm	HGTH. cm	LETS/ CULM	VEG. PLANTS
1.	14.8	---	---	---	---	---	---
2.	16.4	---	---	---	---	---	---
3.	14.9	---	---	---	---	---	---
4.	14.7	---	---	---	---	---	---
5.	14.7	---	---	---	---	---	---
6.	16.2	---	---	---	---	---	---
7.	14.7	---	---	---	---	---	---
8.	14.8	---	---	---	---	---	---
9.	14.7	---	---	---	---	---	---
10.	14.7	---	---	---	---	---	---
11.	16.5	---	---	---	---	---	---
12.	16.4	---	---	---	---	---	---
13.	16.5	---	---	---	---	---	---
14.	14.8	---	---	---	---	---	---
15.	14.7	---	---	---	---	---	---
16.	16.3	---	---	---	---	---	---
17.	14.8	---	---	---	---	---	---
18.	16.3	---	---	---	---	---	---
19.	14.6	---	---	---	---	---	---
20.	14.7	---	---	---	---	---	---

AGROPYRON SMITHII

Study Area Mesa Antelope

Date 21 April 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	17.0	--	--	--	--	--	--
2.	2.0	--	0.1	5.1	--	--	1
3.	2.6	--	0.2	4.8	--	--	2
4.	2.3	--	0.2	6.0	--	--	1
5.	1.9	--	0.1	4.1	--	--	2
6.	1.5	--	0.1	3.0	--	--	1
7.	2.1	--	0.1	6.1	--	--	2
8.	17.0	--	--	--	--	--	--
9.	17.0	--	--	--	--	--	--
10.	1.3	--	0.1	2.2	--	--	1
11.	1.4	--	0.1	3.1	--	--	1
12.	17.0	--	--	--	--	--	--
13.	2.0	--	0.1	5.1	--	--	1
14.	2.1	--	0.1	4.0	--	--	2
15.	2.1	--	0.1	3.5	--	--	1
16.	2.3	--	0.2	5.6	--	--	1
17.	17.0	--	--	--	--	--	--
18.	1.8	--	0.1	3.6	--	--	1
19.	1.8	--	0.2	5.0	--	--	1
20.	1.8	--	0.1	4.7	--	--	2

AGROPYRON SMITHII

Study Area Mesa Antelope

Date 18 May 1977

88

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	2.7	--	0.1	--	12.5	--	--
2.	3.2	--	0.1	--	8.7	--	--
3.	3.3	--	0.2	--	12.0	--	--
4.	2.7	--	0.2	--	8.5	--	--
5.	2.4	--	0.1	--	7.5	--	--
6.	2.4	--	0.1	--	6.2	--	--
7.	3.2	--	0.1	--	13.0	--	--
8.	3.2	--	0.1	--	19.0	--	--
9.	2.3	--	0.2	--	10.0	--	--
10.	2.6	--	0.2	--	6.8	--	--
11.	2.2	--	0.1	--	7.4	--	--
12.	2.6	--	0.1	--	9.0	--	--
13.	2.7	--	0.1	--	10.3	--	--
14.	2.5	--	0.1	--	6.5	--	--
15.	2.6	--	0.1	--	10.4	--	--
16.	2.5	--	0.2	--	15.0	--	--
17.	2.7	--	0.2	--	10.0	--	--
18.	3.4	--	0.1	--	7.0	--	--
19.	3.5	--	0.2	--	10.1	--	--
20.	3.3	--	0.1	--	7.0	--	--

AGROPRYON SMITHII

Study Area Mesa Antelope

Date 7 June 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	2.8	--	0.1	13.5	--	--	--
2.	3.4	--	0.1	14.0	--	--	--
3.	3.4	--	0.1	14.0	--	--	--
4.	3.4	--	0.2	13.0	--	--	--
5.	3.1	--	0.1	10.0	--	--	--
6.	3.1	--	0.1	7.4	--	--	--
7.	3.5	--	0.1	9.5	--	--	--
8.	3.2	--	0.1	16.0	--	--	--
9.	2.8	--	0.2	14.0	--	--	--
10.	2.5	--	0.2	5.5	--	--	--
11.	2.7	--	0.1	11.0	--	--	--
12.	2.9	--	0.1	10.0	--	--	--
13.	2.8	--	0.1	15.2	--	--	--
14.	3.0	--	0.1	9.0	--	--	--
15.	2.8	--	0.1	12.0	--	--	--
16.	2.9	--	0.2	15.5	--	--	--
17.	3.3	--	0.2	10.1	--	--	--
18.	3.3	--	0.1	8.0	--	--	--
19.	3.4	--	0.2	7.5	--	--	--
20.	3.3	--	0.1	8.0	--	--	--

AGROPYRON SMITHII

Study Area

Mesa Antelope

Date 28 June 1977

82

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.6	--	0.1	14.2	--	--	--	
2.	3.5	--	0.1	14.2	--	--	--	
3.	3.5	--	0.1	14.5	--	--	--	
4.	3.8	--	0.2	13.3	--	--	--	
5.	3.5	--	0.1	9.8	--	--	--	
6.	3.4	--	0.1	7.3	--	--	--	
7.	3.7	--	0.1	9.8	--	--	--	
8.	3.6	--	0.1	13.1	--	--	--	
9.	2.9	--	0.2	12.2	--	--	--	
10.	2.8	--	0.2	7.5	--	--	--	
11.	2.8	--	0.1	10.5	--	--	--	
12.	3.7	--	0.1	11.1	--	--	--	
13.	3.5	--	0.1	11.5	--	--	--	
14.	14.3	--	0.1	10.0	--	--	--	
15.	2.9	--	0.1	12.0	--	--	--	
16.	2.9	--	0.2	15.9	--	--	--	
17.	3.9	--	0.2	8.5	--	--	--	
18.	3.4	--	0.1	8.2	--	--	--	
19.	3.6	--	0.2	8.5	--	--	--	
20.	3.4	--	0.1	9.2	--	--	--	

AGROPYRON SMITHII

Study Area Mesa Antelope

Date 20 July 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	3.7	--	0.1	12.0	--	--	--
2.	3.5	--	0.1	13.0	--	--	--
3.	3.6	--	0.1	14.7	--	--	--
4.	3.9	--	0.2	13.6	--	--	--
5.	3.8	--	0.1	10.0	--	--	--
6.	3.9	--	0.1	7.9	--	--	--
7.	14.2	--	0.1	10.0	--	--	--
8.	3.6	--	0.1	14.2	--	--	--
9.	2.9	--	0.2	14.0	--	--	--
10.	2.9	--	0.2	7.3	--	--	--
11.	14.5	--	0.1	10.0	--	--	--
12.	14.3	--	0.1	10.5	--	--	--
13.	14.3	--	0.1	12.3	--	--	--
14.	14.3	--	0.1	9.5	--	--	--
15.	3.8	--	0.1	13.0	--	--	--
16.	2.9	--	0.2	15.5	--	--	--
17.	3.9	--	0.2	8.5	--	--	--
18.	3.5	--	0.1	8.8	--	--	--
19.	14.3	--	0.2	12.0	--	--	--
20.	3.8	--	0.1	9.0	--	--	--

AGROPYRON SMITHII

Study Area Mesa Antelope

Date 9 August 1977

84

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.3	--	0.2	9.8	--	--	--	
2.	4.1	--	0.2	10.6	--	--	--	Heavy rains
3.	4.0	--	0.1	6.5	--	--	--	and erosion
4.	4.1	--	0.2	11.5	--	--	--	caused problems
5.	4.1	--	0.1	10.0	--	--	--	
6.	4.1	--	0.1	7.1	--	--	--	
7.	14.8	--	0.1	10.0	--	--	--	
8.	14.4	--	0.1	12.5	--	--	--	
9.	3.1	--	0.2	14.0	--	--	--	
10.	3.1	--	0.2	7.5	--	--	--	
11.	16.1	--	0.1	10.1	--	--	--	
12.	16.1	--	0.1	10.5	--	--	--	
13.	16.1	--	0.1	13.5	--	--	--	
14.	16.2	--	0.2	15.0	--	--	--	
15.	4.1	--	0.1	9.7	--	--	--	
16.	3.2	--	0.2	14.5	--	--	--	
17.	4.1	--	0.2	14.6	--	--	--	
18.	4.2	--	0.1	9.5	--	--	--	
19.	16.1	--	0.2	16.9	--	--	--	
20.	4.1	--	0.1	8.1	--	--	--	

AGROPYRON SMITHII

Study Area Mesa Antelope

Date 7 September 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	(No regreening)
	VEG.	REPR.						
1.	4.7	--	0.2	13.2	--	--	2	
2.	4.7	--	0.2	12.8	--	--	1	
3.	4.3	--	0.1	13.0	--	--	1	
4.	4.3	--	0.2	12.3	--	--	1	
5.	4.6	--	0.1	9.9	--	--	2	
6.	4.6	--	0.1	6.1	--	--	1	
7.	16.1	--	0.1	--	--	--	1	(eaten)
8.	16.2	--	0.1	7.0	--	--	1	
9.	3.8	--	0.2	13.2	--	--	2	
10.	3.3	--	0.2	6.4	--	--	1	
11.	16.3	--	0.1	6.1	--	--	1	
12.	16.2	--	0.1	10.5	--	--	1	
13.	16.3	--	0.1	12.2	--	--	1	
14.	16.4	--	0.1	14.6	--	--	1	
15.	4.6	--	0.2	7.6	--	--	1	
16.	4.3	--	0.2	9.0	--	--	2	
17.	4.9	--	0.1	14.6	--	--	1	
18.	4.6	--	0.1	8.7	--	--	1	
19.	16.3	--	0.2	13.0	--	--	1	
20.	4.6	--	0.1	7.7	--	--	2	

AGROPYRON SMITHII

Study Area Mesa AntelopeDate 5 November 1977

86

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	17.0	--	--	--	--	--	--
2.	17.0	--	--	--	--	--	--
3.	14.3	--	--	--	--	--	--
4.	14.7	--	--	--	--	--	--
5.	14.7	--	--	--	--	--	--
6.	17.0	--	--	--	--	--	--
7.	14.6	--	--	--	--	--	--
8.	17.0	--	--	--	--	--	--
9.	17.0	--	--	--	--	--	--
10.	14.9	--	--	--	--	--	--
11.	17.0	--	--	--	--	--	--
12.	17.0	--	--	--	--	--	--
13.	17.0	--	--	--	--	--	--
14.	17.0	--	--	--	--	--	--
15.	14.9	--	--	--	--	--	--
16.	17.0	--	--	--	--	--	--
17.	17.0	--	--	--	--	--	--
18.	17.0	--	--	--	--	--	--
19.	17.0	--	--	--	--	--	--
20.	17.0	--	--	--	--	--	--

AGROPYRON SMITHII

Study Area Owl Draw

Date 17 April 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	2.1	0	0.1	2.0	0	0	2	
2.	1.8	0	0.1	1.0	0	0	2	
3.	2.2	0	0.1	4.5	0	0	1	
4.	2.3	0	0.1	4.5	0	0	1	
5.	1.9	0	0.1	3.8	0	0	1	
6.	1.9	0	0.1	4.3	0	0	1	
7.	1.2	0	0.1	4.5	0	0	1	
8.	2.0	0	0.1	5.0	0	0	1	
9.	2.0	0	0.2	7.5	0	0	2	
10.	2.0	0	0.1	3.6	0	0	1	
11.	2.4	0	0.1	5.5	0	0	4	
12.	2.2	0	0.1	4.0	0	0	1	
13.	17.0	0	--	--	0	0	--	
14.	2.4	0	0.1	3.3	0	0	1	
15.	17.0	0	--	--	0	0	--	
16.	17.0	0	--	--	0	0	--	
17.	2.4	0	0.1	9.4	0	0	4	
18.	2.0	0	0.1	3.0	0	0	2	
19.	2.0	0	0.1	2.2	0	0	1	
20.	17.0	0	--	--	0	0	--	

AGROPYRON SMITHII

Study Area Owl Draw

Date 16 May 1977

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PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGT. cm	MAX. SPIKE HGT. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	3.3	0	0.2	9.0	0	0	2
2.	2.8	0	0.2	10.0	0	0	2
3.	2.8	0	0.2	9.5	0	0	1
4.	3.7	0	0.3	9.2	0	0	1
5.	3.7	0	0.4	15.5	0	0	1
6.	3.3	0	0.3	13.6	0	0	1
7.	0.1	0	0.1	2.7	0	0	1
8.	3.5	0	0.3	15.4	0	0	1
9.	4.2	0	0.4	15.5	0	0	2
10.	3.4	0	0.3	19.0	0	0	1
11.	3.2	0	0.2	12.0	0	0	4
12.	3.3	0	0.1	5.2	0	0	1
13.	3.4	0	0.3	13.2	0	0	--
14.	3.2	0	0.3	13.0	0	0	1
15.	3.3	0	0.2	12.5	0	0	--
16.	3.3	0	0.2	11.4	0	0	--
17.	3.4	0	0.2	16.2	0	0	4
18.	3.5	0	0.2	12.4	0	0	2
19.	3.5	0	0.3	13.0	0	0	1
20.	3.5	0	0.3	13.6	0	0	--

AGROPYRON SMITHII

Study Area Owl Draw

Date 2 July 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.6	0	0.2	12.6	0	0	2	
2.	2.9	0	0.2	12.0	0	0	2	
3.	4.3	0	0.3	24.3	0	0	1	
4.	4.2	0	0.3	28.8	0	0	1	
5.	3.5	0	0.4	18.5	0	0	1	
6.	3.7	0	0.3	22.7	0	0	1	
7.	3.3	0	0.2	13.8	0	0	1	
8.	4.1	0	0.3	20.1	0	0	1	
9.	4.4	0	0.2	19.2	0	0	2	
10.	4.2	0	0.3	18.4	0	0	1	
11.	3.7	0	0.2	17.1	0	0	4	
12.	4.1	0	0.3	18.0	0	0	1	
13.	3.7	0	0.3	16.2	0	0	--	
14.	3.3	0	0.3	13.3	0	0	1	
15.	3.4	0	0.2	11.0	0	0	--	
16.	3.8	0	0.2	11.5	0	0	--	
17.	3.4	0	0.2	22.0	0	0	4	
18.	4.2	0	0.4	20.0	0	0	2	
19.	4.4	0	0.4	27.2	0	0	1	(Repl.)
20.	3.7	0	0.3	21.7	0	0	--	

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.1	0	0.2	14.0	0	0	2	
2.	3.8	0	0.2	9.0	0	0	2	
3.	4.8	5.2	0.3	24.5	0	0	1	
4.	4.3	5.5	0.3	22.5	0	0	1	
5.	4.3	0	0.4	19.0	0	0	1	
6.	4.6	0	0.3	20.0	0	0	1	
7.	3.5	0	0.2	16.0	0	0	1'	
8.	4.5	0	0.3	20.5	0	0	1	
9.	4.6	0	0.3	21.5	0	0	2	
10.	4.3	0	0.3	23.5	0	0	1	(Repl.)
11.	4.2	0	0.2	12.0	0	0	4	
12.	4.2	0	0.3	17.0	0	0	1	
13.	4.0	0	0.2	9.0	0	0	--	
14.	4.3	0	0.3	14.5	0	0	1	
15.	4.2	0	0.2	17.5	0	0	--	
16.	3.4	0	0.2	11.0	0	0	--	
17.	3.6	0	0.2	18.0	0	0	4'	
18.	4.3	0	0.4	15.0	0	0	2	
19.	4.4	0	0.2	14.0	0	0	1	
20.	4.5	0	0.3	21.0	0	0	--	

AGROPYRON SMITHII

Study Area Owl Draw

Date 12 August 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.1	0	0.1	10.0	0	0	2	
2.	14.2	0	0.2	13.0	0	0	2	
3.	4.9	0	0.2	18.2	0	0	1	
4.	14.1	0	0.3	20.2	0	0	1	
5.	4.9	0	0.4	19.1	0	0	1	
6.	14.2	0	0.3	20.5	0	0	1	
7.	14.2	0	0.2	16.2	0	0	1	
8.	4.8	0	0.2	13.5	0	0	1	
9.	14.5	0	0.2	19.2	0	0	2	
10.	14.0	0	0.3	23.0	0	0	1	
11.	14.5	0	0.2	12.2	0	0	4	
12.	4.8	0	0.3	17.6	0	0	1	
13.	14.4	0	0.2	8.9	0	0	--	
14.	14.1	0	0.3	11.0	0	0	1	
15.	14.6	0	0.2	17.5	0	0	--	
16.	14.2	0	0.2	15.9	0	0	--	
17.	14.3	0	0.2	22.3	0	0	4	
18.	14.2	0	0.4	19.7	0	0	2	
19.	14.1	0	0.2	15.2	0	0	1	
20.	14.1	0	0.3	28.2	0	0	--	

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.6	0	--	--	--	--	2	
2.	14.5	0	--	--	--	--	2	
3.	14.7	0	--	--	--	--	1	
4.	14.5	0	--	--	--	--	1	
5.	14.8	0	--	--	--	--	1	
6.	14.6	0	--	--	--	--	1	
7.	14.3	0	--	--	--	--	1	
8.	14.6	0	--	--	--	--	1	
9.	14.5	0	--	--	--	--	2	
10.	14.6	0	--	--	--	--	1	
11.	14.6	0	--	--	--	--	4	
12.	14.7	0	--	--	--	--	1	
13.	14.5	0	--	--	--	--	--	
14.	14.6	0	--	--	--	--	1	
15.	14.5	0	--	--	--	--	--	
16.	14.5	0	--	--	--	--	--	
17.	14.6	0	--	--	--	--	4	
18.	14.5	0	--	--	--	--	2	
19.	14.6	0	--	--	--	--	1	
20.	14.6	0	--	--	--	--	--	

AGROPYRON SMITHII

Study Area Owl Draw

Date 17 November 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	17.0	17.0	--	--	--	--	--
2.	17.0	17.0	--	--	--	--	--
3.	17.0	17.0	--	--	--	--	--
4.	17.0	17.0	--	--	--	--	--
5.	17.0	17.0	--	--	--	--	--
6.	17.0	17.0	--	--	--	--	--
7.	17.0	17.0	--	--	--	--	--
8.	17.0	17.0	--	--	--	--	--
9.	17.0	17.0	--	--	--	--	--
10.	17.0	17.0	--	--	--	--	--
11.	17.0	17.0	--	--	--	--	--
12.	17.0	17.0	--	--	--	--	--
13.	17.0	17.0	--	--	--	--	--
14.	17.0	17.0	--	--	--	--	--
15.	17.0	17.0	--	--	--	--	--
16.	17.0	17.0	--	--	--	--	--
17.	17.0	17.0	--	--	--	--	--
18.	17.0	17.0	--	--	--	--	--
19.	17.0	17.0	--	--	--	--	--
20.	17.0	17.0	--	--	--	--	--

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	2.2	--	0.2	8.5	--	--	2	
2.	17.0	--	--	--	--	--	--	
3.	17.0	--	--	--	--	--	--	
4.	17.0	--	--	--	--	--	--	
5.	1.8	--	0.1	2.7	--	--	1	
6.	2.1	--	0.1	6.5	--	--	2	
7.	17.0	--	--	--	--	--	--	
8.	1.8	--	0.1	1.5	--	--	1	
9.	1.8	--	0.1	3.4	--	--	1	
10.	2.3	--	0.1	3.3	--	--	2	
11.	17.0	--	--	--	--	--	--	
12.	17.0	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	--	
14.	1.6	--	0.1	2.5	--	--	1	
15.	17.0	--	--	--	--	--	--	
16.	17.0	--	--	--	--	--	--	
17.	17.0	--	--	--	--	--	--	
18.	17.0	--	--	--	--	--	--	
19.	17.0	--	--	--	--	--	--	
20.	17.0	--	--	--	--	--	--	

AGROPYRON SMITHII

Study Area Red Wash #2

Date 20 May 1977

PLANT NO.	PHENO. STAGE	SCORE	MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.2	--	0.1	10.5	--	--	--	
2.	3.3	--	0.1	13.5	--	--	--	
3.	2.7	--	0.1	12.0	--	--	--	
4.	2.7	--	0.1	11.5	--	--	--	
5.	3.2	--	0.1	8.0	--	--	--	
6.	3.2	--	0.2	15.5	--	--	--	
7.	3.3	--	0.1	21.0	--	--	--	
8.	2.7	--	0.2	12.5	--	--	--	
9.	3.2	--	0.1	13.2	--	--	--	
10.	3.3	--	0.2	15.6	--	--	--	
11.	2.2	--	0.1	11.5	--	--	--	
12.	2.4	--	0.1	9.0	--	--	--	
13.	2.3	--	0.1	2.0	--	--	--	
14.	2.3	--	0.1	7.5	--	--	--	
15.	2.1	--	0.1	4.5	--	--	--	(Repl.)
16.	2.2	--	0.1	2.8	--	--	--	
17.	2.6	--	0.1	10.2	--	--	--	
18.	3.2	--	0.1	8.5	--	--	--	
19.	3.2	--	0.1	8.5	--	--	--	
20.	2.4	--	0.1	5.0	--	--	--	

ACROPYRON SMITHIIStudy Area Red Wash #2Date 6 June 1977

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PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.4	--	0.1	18.6	--	--	--	
2.	3.4	--	0.1	11.2	--	--	--	
3.	2.9	--	0.1	18.5	--	--	--	
4.	3.3	--	0.2	10.0	--	--	--	
5.	3.6	--	0.1	8.2	--	--	--	
6.	3.4	--	0.2	13.2	--	--	--	
7.	3.9	--	0.2	22.0	--	--	--	
8.	2.7	--	0.2	11.0	--	--	--	
9.	3.6	--	0.1	13.4	--	--	--	
10.	3.7	--	0.2	15.5	--	--	--	
11.	2.5	--	0.1	11.2	--	--	--	
12.	2.4	--	0.1	5.6	--	--	--	
13.	2.3	--	0.1	10.0	--	--	--	
14.	2.4	--	0.2	8.5	--	--	--	
15.	2.1	--	0.1	5.2	--	--	--	
16.	2.3	--	0.1	3.5	--	--	--	
17.	2.7	--	0.2	6.0	--	--	--	
18.	3.3	--	0.2	18.6	--	--	--	
19.	3.3	--	0.2	8.5	--	--	--	
20.	2.4	--	0.1	7.0	--	--	--	

AGROPYRON SMITHII

Study Area Red Wash #2

Date 27 June 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANT'S	
	VEG.	REPR.						
1.	3.4	--	0.1	14.1	--	--	--	(Lvs. brown - dry cond.)
2.	3.4	--	0.2	18.5	--	--	--	
3.	2.9	--	0.1	15.9	--	--	--	
4.	3.4	--	0.2	8.4	--	--	--	
5.	3.6	--	0.1	10.5	--	--	--	
6.	3.4	--	0.2	15.2	--	--	--	
7.	3.9	--	0.2	21.5	--	--	--	
8.	2.9	--	0.1	11.8	--	--	--	
9.	3.6	--	0.1	13.5	--	--	--	
10.	3.8	--	0.2	15.1	--	--	--	
11.	2.9	--	0.1	10.5	--	--	--	
12.	2.5	--	0.1	9.2	--	--	--	
13.	3.4	--	0.1	10.3	--	--	--	
14.	2.8	--	0.1	8.4	--	--	--	
15.	2.4	--	0.1	4.7	--	--	--	
16.	2.5	--	0.1	5.8	--	--	--	(Dying)
17.	2.8	--	0.1	6.3	--	--	--	
18.	3.5	--	0.2	15.2	--	--	--	
19.	3.5	--	0.1	7.9	--	--	--	
20.	2.5	--	0.2	5.5	--	--	--	

AGROPYRON SMITHIIStudy Area Red Wash #2Date 19 July 1977

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PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.6	--	0.1	15.6	--	--	--	
2.	14.2	--	0.2	11.5	--	--	--	
3.	3.5	--	0.1	16.5	--	--	--	
4.	3.5	--	0.2	10.0	--	--	--	
5.	3.6	--	0.1	11.1	--	--	--	
6.	3.9	--	0.2	15.0	--	--	--	
7.	3.9	--	0.2	22.5	--	--	--	
8.	2.9	--	0.1	11.0	--	--	--	
9.	3.8	--	0.1	7.0	--	--	--	
10.	3.9	--	0.2	16.0	--	--	--	
11.	14.2	--	0.1	17.0	--	--	--	
12.	14.2	--	0.1	9.3	--	--	--	
13.	3.8	--	0.1	13.6	--	--	--	
14.	2.8	--	0.1	10.0	--	--	--	
15.	3.1	--	0.1	5.0	--	--	--	
16.	14.2	--	0.1	10.2	--	--	--	
17.	14.0	--	0.1	8.0	--	--	--	
18.	3.8	--	0.2	16.4	--	--	--	
19.	3.6	--	0.1	7.1	--	--	--	
20.	2.5	--	0.1	5.5	--	--	--	

AGROPYRON SMITHII

Study Area Red Wash #2

Date 15 August 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	16.3	--	0.1	18.2	--	--	--	
2.	16.5	--	0.2	9.0	--	--	--	(Repl.)
3.	16.2	--	0.1	19.0	--	--	--	
4.	16.5	--	0.2	13.5	--	--	--	
5.	16.2	--	0.1	6.5	--	--	--	
6.	16.2	--	0.1	12.0	--	--	--	
7.	16.5	--	0.2	21.0	--	--	--	
8.	16.3	--	0.1	14.0	--	--	--	
9.	16.1	--	0.1	8.0	--	--	--	
10.	16.2	--	0.1	15.0	--	--	--	
11.	14.9	--	0.1	24.5	--	--	--	
12.	16.1	--	0.1	--	--	--	--	(Damaged)
13.	16.2	--	0.1	11.2	--	--	--	
14.	16.2	--	0.1	9.0	--	--	--	
15.	16.2	--	0.1	14.0	--	--	--	
16.	16.1	--	0.1	7.0	--	--	--	
17.	16.2	--	0.1	11.5	--	--	--	
18.	16.3	--	0.1	15.5	--	--	--	
19.	16.5	--	0.1	8.0	--	--	--	
20.	16.1	--	0.1	4.7	--	--	--	

AGROPYRON SMITHII

Study Area Red Wash #2

Date 9 September 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	(Some N. Growth & Regreening)
	VEG.	REPR.						
1.	16.4	--	0.1	8.0	--	--	2	
2.	16.3	--	0.2	10.2	--	--	1	
3.	16.3	--	0.2	10.5	--	--	2	
4.	16.4	--	0.2	14.0	--	--	1	
5.	16.3	--	0.1	8.0	--	--	2	
6.	16.3	--	0.1	9.5	--	--	2	
7.	16.4	--	0.2	19.5	--	--	1	
8.	16.3	--	0.1	13.6	--	--	9	
9.	16.1	--	0.1	10.6	--	--	1	
10.	16.3	--	0.1	15.0	--	--	1	
11.	16.3	--	0.1	15.0	--	--	1	
12.	16.2	--	0.1	7.2	--	--	1	
13.	16.2	--	0.1	16.5	--	--	3	
14.	16.2	--	0.1	6.4	--	--	2	
15.	16.3	--	0.1	5.0	--	--	1	
16.	14.9	--	--	--	--	--	--	
17.	16.2	--	0.1	9.5	--	--	1	
18.	16.2	--	0.1	7.2	--	--	1	
19.	14.9	--	--	--	--	--	--	
20.	16.1	--	0.1	4.1	--	--	2	

AGROPYRON SMITHII

Study Area Red Wash #2

Date 4 November 1977

PLANT NO.	PHENO. STAGE	SCORE	MAX. LEAF WIDTH	MAX. LEAF HGTH.	MAX. SPIKE HGTH.	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.	cm	cm	cm			
1.	17.0	--	--	--	--	--	--	
2.	17.0	--	--	--	--	--	--	
3.	17.0	--	--	--	--	--	--	
4.	17.0	--	--	--	--	--	--	
5.	17.0	--	--	--	--	--	--	
6.	17.0	--	--	--	--	--	--	
7.	17.0	--	--	--	--	--	--	
8.	17.0	--	--	--	--	--	--	
9.	17.0	--	--	--	--	--	--	
10.	17.0	--	--	--	--	--	--	
11.	17.0	--	--	--	--	--	--	
12.	17.0	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	--	
14.	17.0	--	--	--	--	--	--	
15.	17.0	--	--	--	--	--	--	
16.	17.0	--	--	--	--	--	--	
17.	17.0	--	--	--	--	--	--	
18.	17.0	--	--	--	--	--	--	
19.	17.0	--	--	--	--	--	--	(eaten)
20.	17.0	--	--	--	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	2.4	--	0.1	6.5	--	--	--	
2.	3.1	--	0.2	--	--	--	--	
3.	2.7	--	0.2	8.0	--	--	--	(Repl.)
4.	2.3	--	0.1	6.0	--	--	--	
5.	2.3	--	0.1	8.5	--	--	--	
6.	2.3	--	0.3	8.5	--	--	--	
7.	3.1	--	0.2	9.5	--	--	--	
8.	3.1	--	0.1	4.0	--	--	--	
9.	2.7	--	0.1	8.5	--	--	--	
10.	3.2	--	0.2	8.5	--	--	--	
11.	2.5	--	0.2	11.2	--	--	--	
12.	2.3	--	0.2	5.3	--	--	--	
13.	3.2	--	0.3	7.0	--	--	--	
14.	3.2	--	0.3	4.0	--	--	--	
15.	3.1	--	0.1	7.4	--	--	--	
16.	3.1	--	0.2	8.4	--	--	--	
17.	3.1	--	0.1	4.5	--	--	--	
18.	2.7	--	0.1	16.0	--	--	--	
19.	3.1	--	0.2	9.7	--	--	--	
20.	2.3	--	0.1	5.0	--	--	--	

AGROPYRON SMITHII

Study Area Shoshoni Ant #7

Date 17 May 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.3	--	0.2	14.0	--	--	--	
2.	3.4	--	0.2	16.2	--	--	--	
3.	3.5	--	0.3	19.2	--	--	--	
4.	3.2	--	0.2	13.3	--	--	--	
5.	3.2	--	0.3	13.2	--	--	--	
6.	2.7	--	0.2	17.5	--	--	--	
7.	3.6	--	0.2	14.0	--	--	--	
8.	3.3	--	0.1	9.7	--	--	--	
9.	3.3	--	0.1	13.6	--	--	--	(Damaged)
10.	3.2	--	0.1	14.2	--	--	--	
11.	4.3	--	0.3	20.1	--	--	--	
12.	4.2	--	0.1	11.5	--	--	--	
13.	3.4	--	0.3	10.2	--	--	--	
14.	3.8	--	0.2	13.5	--	--	--	
15.	3.6	--	0.1	16.4	--	--	--	
16.	3.1	--	0.2	13.6	--	--	--	
17.	3.3	--	0.1	12.3	--	--	--	
18.	2.9	--	0.1	18.2	--	--	--	
19.	4.3	--	0.1	10.0	--	--	--	
20.	3.2	--	0.1	8.1	--	--	--	

AGROPYRON SMITHII

Study Area Shoshoni Ant #7

Date 8 June 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGT. cm	MAX. SPIKE HGT. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.3	--	0.2	14.0	--	--	--	
2.	3.5	--	0.2	17.0	--	--	--	
3.	4.2	--	0.3	19.0	--	--	--	
4.	3.3	--	0.2	16.0	--	--	--	
5.	3.9	--	0.2	15.0	--	--	--	
6.	2.8	--	0.2	19.0	--	--	--	
7.	3.9	--	0.2	17.0	--	--	--	
8.	3.5	--	0.1	12.0	--	--	--	
9.	3.3	--	0.2	15.0	--	--	--	
10.	3.4	--	0.2	18.0	--	--	--	
11.	4.3	--	0.3	27.0	--	--	--	
12.	4.5	--	0.2	14.0	--	--	--	
13.	4.1	--	0.2	13.0	--	--	--	
14.	4.2	--	0.2	14.0	--	--	--	
15.	3.9	--	0.1	13.0	--	--	--	
16.	3.5	--	0.2	14.0	--	--	--	
17.	3.3	--	0.1	11.0	--	--	--	
18.	3.3	--	0.1	16.0	--	--	--	
19.	4.9	--	0.1	15.0	--	--	--	
20.	3.3	--	0.1	7.0	--	--	--	

ACROPYRON SMITHII

Study Area Shoshoni Ant #7

Date 29 June 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.7	--	0.1	14.0	--	--	--	
2.	3.7	--	0.1	18.2	--	--	--	
3.	4.5	--	0.2	19.5	--	--	--	
4.	3.9	--	0.1	16.2	--	--	--	
5.	14.2	--	0.1	9.0	--	--	--	
6.	3.8	--	0.2	18.0	--	--	--	
7.	3.7	--	0.2	17.5	--	--	--	
8.	3.8	--	0.1	10.8	--	--	--	
9.	3.7	--	0.1	9.3	--	--	--	
10.	3.9	--	0.2	19.3	--	--	--	
11.	4.4	--	0.2	25.9	--	--	--	
12.	4.7	--	0.1	17.0	--	--	--	
13.	4.1	--	0.1	14.5	--	--	--	
14.	4.8	--	0.1	10.5	--	--	--	
15.	4.5	--	0.1	13.7	--	--	--	
16.	4.5	--	0.1	12.5	--	--	--	
17.	3.9	--	0.1	12.0	--	--	--	
18.	4.5	--	0.2	15.7	--	--	--	
19.	4.9	--	0.1	16.1	--	--	--	
20.	3.5	--	0.1	16.0	--	--	--	

AGROPYRON SMITHII

Study Area Shoshoni Ant #7

Date 19 July 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.3	--	--	--	--	--	--	
2.	3.8	--	0.2	18.0	--	--	--	
3.	14.4	--	--	--	--	--	--	(Broken)
4.	14.4	--	--	--	--	--	--	(Broken)
5.	14.2	--	--	--	--	--	--	
6.	4.6	--	0.2	8.0	--	--	--	
7.	4.8	--	0.3	7.5	--	--	--	
8.	4.4	--	0.2	15.5	--	--	--	
9.	4.2	--	0.2	15.0	--	--	--	
10.	14.1	--	--	--	--	--	--	(Broken)
11.	4.6	--	0.3	26.0	--	--	--	
12.	4.8	--	0.3	14.0	--	--	--	
13.	4.2	--	0.3	14.0	--	--	--	
14.	4.6	--	0.2	8.0	--	--	--	
15.	4.5	--	0.3	14.5	--	--	--	
16.	4.8	--	0.3	16.0	--	--	--	(Repl.)
17.	3.9	--	0.1	10.0	--	--	--	
18.	4.8	--	0.2	16.0	--	--	--	
19.	4.4	--	0.2	16.0	--	--	--	
20.	14.1	--	--	--	--	--	--	

AGROPYRON SMITHII

Study Area Shoshoni Ant #7

Date 10 August 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.5	--	0.1	13.5	--	--	--	
2.	14.7	--	--	--	--	--	--	
3.	14.5	--	--	--	--	--	--	
4.	14.5	--	--	--	--	--	--	
5.	14.5	--	--	--	--	--	--	
6.	14.5	--	0.1	8.0	--	--	--	
7.	14.5	--	--	--	--	--	--	
8.	14.4	--	--	--	--	--	--	
9.	4.7	--	0.1	15.0	--	--	--	
10.	14.5	--	--	--	--	--	--	
11.	4.6	--	0.2	27.0	--	--	--	
12.	14.5	--	--	13.5	--	--	--	
13.	14.5	--	--	--	--	--	--	
14.	14.5	--	0.1	8.0	--	--	--	
15.	14.5	--	--	--	--	--	--	
16.	14.4	--	--	--	--	--	--	
17.	14.3	--	--	--	--	--	--	
18.	14.5	--	0.1	15.0	--	--	--	
19.	14.3	--	0.1	12.0	--	--	--	
20.	14.3	--	--	--	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.7	--	--	--	--	--	--	
2.	14.9	--	--	--	--	--	--	
3.	--	--	--	--	--	--	--	(Dead)
4.	--	--	--	--	--	--	--	(Dead)
5.	14.4	--	--	--	--	--	--	
6.	14.8	--	--	--	--	--	--	
7.	14.7	--	--	--	--	--	--	
8.	14.5	--	--	--	--	--	--	
9.	14.7	--	--	--	--	--	--	
10.	14.8	--	--	--	--	--	--	
11.	16.3	--	--	--	--	--	--	
12.	16.1	--	--	--	--	--	--	
13.	16.3	--	--	--	--	--	--	
14.	14.7	--	--	--	--	--	--	
15.	14.9	--	--	--	--	--	--	
16.	14.7	--	--	--	--	--	--	
17.	14.7	--	--	--	--	--	--	
18.	14.7	--	--	--	--	--	--	
19.	14.6	--	--	--	--	--	--	
20.	14.8	--	--	--	--	--	--	

AGROPYRON SMITHII

Study Area Shoshoni Ant #7

Date 19 November 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	17.0	--	--	--	--	--	--	(Snow)
2.	17.0	--	--	--	--	--	--	
3.	--	--	--	--	--	--	--	(Dead)
4.	--	--	--	--	--	--	--	(Dead)
5.	17.0	--	--	--	--	--	--	
6.	17.0	--	--	--	--	--	--	
7.	17.0	--	--	--	--	--	--	
8.	17.0	--	--	--	--	--	--	
9.	17.0	--	--	--	--	--	--	
10.	17.0	--	--	--	--	--	--	
11.	17.0	--	--	--	--	--	--	
12.	17.0	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	--	
14.	17.0	--	--	--	--	--	--	
15.	17.0	--	--	--	--	--	--	
16.	17.0	--	--	--	--	--	--	
17.	17.0	--	--	--	--	--	--	
18.	17.0	--	--	--	--	--	--	
19.	17.0	--	--	--	--	--	--	
20.	17.0	--	--	--	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE-LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	1.3	--	0.1	5.5	--	--	1
2.	2.3	--	0.1	2.6	--	--	1
3.	2.4	--	0.1	4.5	--	--	2
4.	2.2	--	0.1	4.5	--	--	2
5.	2.1	--	0.1	5.2	--	--	1
6.	2.1	--	0.1	4.0	--	--	1
7.	2.0	--	0.1	3.7	--	--	1
8.	2.4	--	0.1	5.5	--	--	2
9.	2.4	--	0.1	6.0	--	--	3
10.	2.4	--	0.1	6.0	--	--	3
11.	2.0	--	0.1	5.3	--	--	1
12.	2.3	--	0.1	4.7	--	--	2
13.	17.0	--	0.1	--	--	--	1
14.	2.3	--	0.1	5.3	--	--	2
15.	1.9	--	0.1	3.5	--	--	1
16.	2.1	--	0.1	3.0	--	--	1
17.	2.6	--	0.1	8.5	--	--	3
18.	2.6	--	0.1	6.0	--	--	2
19.	17.0	--	0.1	--	--	--	--
20.	2.3	--	0.1	3.3	--	--	1

AGROPYRON SMITHII

Study Area Sweetwater

Date 18 May 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.2	--	0.2	16.0	--	--	--	
2.	3.2	--	0.1	4.0	--	--	--	
3.	3.2	--	0.1	5.0	--	--	--	
4.	3.4	--	0.1	6.5	--	--	--	
5.	3.3	--	0.2	11.0	--	--	--	(Damaged)
6.	3.1	--	0.1	15.0	--	--	--	
7.	4.3	--	0.1	12.0	--	--	--	
8.	3.6	--	0.2	14.2	--	--	--	
9.	3.4	--	0.1	17.4	--	--	--	
10.	3.4	--	0.3	9.5	--	--	--	
11.	3.5	--	0.1	10.0	--	--	--	
12.	3.4	--	0.1	14.0	--	--	--	
13.	3.5	--	0.3	10.2	--	--	--	(Damaged)
14.	3.2	--	0.1	9.5	--	--	--	
15.	3.2	--	0.1	19.5	--	--	--	
16.	2.8	--	0.2	10.0	--	--	--	
17.	3.7	--	0.3	22.5	--	--	--	
18.	3.5	--	0.2	13.0	--	--	--	
19.	4.5	5.2	0.2	7.6	--	--	--	
20.	4.2	--	0.1	4.7	--	--	--	

AGROPYRON SMITHII

Study Area SweetwaterDate 8 June 1977

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PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.3	--	0.1	18.0	--	--	--	
2.	3.4	--	0.1	16.5	--	--	--	
3.	3.4	--	0.1	6.0	--	--	--	
4.	4.7	5.1	0.2	21.0	--	--	--	
5.	3.3	--	0.1	11.0	--	--	--	
6.	3.4	--	0.2	16.0	--	--	--	
7.	4.4	--	0.1	12.0	--	--	--	
8.	3.9	--	0.1	14.0	--	--	--	
9.	3.7	--	0.1	17.0	--	--	--	
10.	3.8	--	0.1	15.0	--	--	--	
11.	3.6	--	0.1	14.2	--	--	--	
12.	3.7	--	0.1	16.0	--	--	--	
13.	3.6	--	0.1	12.0	--	--	--	
14.	3.9	--	0.1	12.0	--	--	--	
15.	3.9	--	0.1	18.0	--	--	--	
16.	2.8	--	0.1	10.5	--	--	--	
17.	3.9	--	0.2	20.0	--	--	--	
18.	3.5	--	0.1	17.0	--	--	--	
19.	4.6	6.4	0.1	19.0	--	--	--	
20.	4.4	--	0.1	18.0	--	--	--	

AGROPYRON SMITHII

Study Area Sweetwater

Date 29 June 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.9	--	0.2	18.0	--	--	--	
2.	3.4	--	0.1	6.2	--	--	--	
3.	4.3	--	0.1	6.2	--	--	--	
4.	14.2	--	0.1	16.6	--	--	--	
5.	3.7	--	0.2	12.5	--	--	--	
6.	3.9	--	0.3	23.3	--	--	--	
7.	4.7	--	0.2	11.2	--	--	--	
8.	3.9	--	0.2	17.7	--	--	--	
9.	3.8	--	0.2	15.8	--	--	--	
10.	14.2	--	0.1	14.5	--	--	--	
11.	3.2	--	0.2	14.5	--	--	--	
12.	3.7	--	0.2	16.3	--	--	--	
13.	14.5	--	0.1	15.1	--	--	--	
14.	3.8	--	0.1	11.3	--	--	--	
15.	3.9	--	0.1	15.2	--	--	--	
16.	3.5	--	0.1	6.9	--	--	--	
17.	3.9	--	0.2	20.5	--	--	--	
18.	3.9	--	0.2	16.6	--	--	--	
19.	4.9	--	0.1	13.2	--	--	--	
20.	4.6	--	0.1	13.1	--	--	--	

ACROPYRON SMITHII

Study Area SweetwaterDate 19 July 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	3.8	--	0.2	17.5	--	--	--
2.	3.6	--	0.1	6.0	--	--	--
3.	4.4	--	0.2	6.5	--	--	--
4.	14.3	--	0.2	19.5	--	--	--
5.	14.2	--	0.2	12.6	--	--	--
6.	3.9	--	0.2	22.5	--	--	--
7.	14.3	--	0.2	11.2	--	--	--
8.	3.9	--	0.2	14.0	--	--	--
9.	3.9	--	0.2	16.5	--	--	--
10.	14.2	--	0.1	13.0	--	--	--
11.	3.7	--	0.2	14.5	--	--	--
12.	3.6	--	0.2	15.0	--	--	--
13.	14.2	--	0.1	15.2	--	--	--
14.	3.8	--	0.2	12.5	--	--	--
15.	4.2	--	0.2	13.5	--	--	--
16.	3.5	--	0.2	10.0	--	--	--
17.	4.3	--	0.3	19.5	--	--	--
18.	3.9	--	0.2	15.5	--	--	--
19.	4.8	--	0.2	17.0	--	--	--
20.	4.7	--	0.1	5.0	--	--	--

AGROPYRON SMITHII

Study Area Sweetwater

Date 10 August 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	3.9	--	0.2	19.5	--	--	--	
2.	3.9	--	0.1	14.0	--	--	--	
3.	4.4	--	0.1	9.5	--	--	--	
4.	14.5	--	0.1	22.0	--	--	--	
5.	16.3	--	0.1	8.1	--	--	--	
6.	14.5	--	0.1	19.5	--	--	--	
7.	14.5	--	0.1	12.0	--	--	--	
8.	3.8	--	0.2	15.2	--	--	--	
9.	3.9	--	0.1	15.0	--	--	--	
10.	14.2	--	0.1	14.0	--	--	--	
11.	3.9	--	0.2	15.0	--	--	--	
12.	3.9	--	0.1	22.0	--	--	--	
13.	17.0	--	--	--	--	--	--	(Dead)
14.	3.9	--	0.1	12.5	--	--	--	
15.	14.1	--	0.1	16.2	--	--	--	
16.	3.9	--	0.1	9.0	--	--	--	
17.	4.6	--	0.2	20.5	--	--	--	
18.	3.9	--	0.2	16.5	--	--	--	
19.	4.9	--	0.2	17.5	--	--	--	
20.	4.5	--	0.1	13.0	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	16.4	--	--	--	--	--	--
2.	16.3	--	--	--	--	--	--
3.	14.9	--	--	--	--	--	--
4.	16.4	--	--	--	--	--	--
5.	16.2	--	--	--	--	--	--
6.	16.7	--	--	--	--	--	--
7.	16.2	--	--	--	--	--	--
8.	16.3	--	--	--	--	--	--
9.	16.7	--	--	--	--	--	--
10.	16.3	--	--	--	--	--	--
11.	16.6	--	--	--	--	--	--
12.	16.4	--	--	--	--	--	--
13.	16.1	--	--	--	--	--	--
14.	16.4	--	--	--	--	--	--
15.	16.4	--	--	--	--	--	--
16.	16.4	--	--	--	--	--	--
17.	16.6	--	--	--	--	--	--
18.	16.5	--	--	--	--	--	--
19.	16.7	--	--	--	--	--	--
20.	16.4	--	--	--	--	--	--

AGROPYRON SMITHII

Study Area Upper Government Draw

Date 24 April 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	3.1	--	0.1	7.0	--	--	--
2.	3.1	--	0.2	8.2	--	--	--
3.	2.1	--	0.1	7.2	--	--	--
4.	3.1	--	0.1	7.2	--	--	--
5.	2.7	--	0.1	10.6	--	--	--
6.	2.7	--	0.2	10.5	--	--	--
7.	2.5	--	0.1	10.7	--	--	--
8.	2.2	--	0.2	9.5	--	--	--
9.	2.6	--	0.1	7.0	--	--	--
10.	2.4	--	0.1	9.0	--	--	--
11.	3.3	--	0.2	8.0	--	--	--
12.	2.4	--	0.1	9.7	--	--	--
13.	2.5	--	0.1	10.5	--	--	--
14.	3.1	--	0.1	6.5	--	--	--
15.	2.7	--	0.2	8.0	--	--	--
16.	3.2	--	0.2	8.5	--	--	--
17.	2.7	--	0.1	12.5	--	--	--
18.	3.2	--	0.2	3.3	--	--	--
19.	2.7	--	0.1	10.0	--	--	--
20.	3.1	--	0.2	16.2	--	--	--

AGROPYRON SMITHII

Study Area Upper Government Draw

Date 18 May 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS
	VEG.	REPR.					
1.	4.6	--	0.3	17.5	--	--	--
2.	3.2	--	0.2	14.0	--	--	--
3.	3.4	--	0.2	17.0	--	--	--
4.	3.5	--	0.3	17.0	--	--	--
5.	3.6	--	0.3	16.0	--	--	--
6.	3.3	--	0.3	16.5	--	--	--
7.	3.1	--	0.2	26.5	--	--	--
8.	4.6	--	0.2	19.0	--	--	--
9.	3.2	--	0.2	12.0	--	--	--
10.	3.6	--	0.1	14.0	--	--	--
11.	3.4	--	0.2	21.6	--	--	--
12.	3.6	--	0.2	17.6	--	--	--
13.	3.5	--	0.2	13.2	--	--	--
14.	4.2	--	0.2	24.5	--	--	--
15.	3.1	--	0.3	17.5	--	--	--
16.	4.3	--	0.2	17.5	--	--	--
17.	4.2	--	0.2	22.0	--	--	--
18.	3.4	--	0.3	16.0	--	--	--
19.	3.6	--	0.3	16.5	--	--	--
20.	3.2	--	0.1	16.5	--	--	--

AGROPYRON SMITHIIStudy Area Upper Government DrawDate 8 June 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.5	--	0.2	19.0	--	--	--	
2.	3.3	--	0.2	14.5	--	--	--	
3.	3.6	--	0.2	17.5	--	--	--	
4.	3.5	--	0.2	16.1	--	--	--	
5.	4.1	--	0.2	19.0	--	--	--	
6.	3.8	--	0.2	25.1	--	--	--	
7.	3.8	--	0.2	24.0	--	--	--	
8.	4.2	--	0.2	16.5	--	--	--	
9.	3.1	--	0.1	10.5	--	--	--	
10.	3.4	--	0.2	17.0	--	--	--	
11.	3.8	--	0.2	22.0	--	--	--	
12.	3.7	--	0.2	18.0	--	--	--	
13.	3.4	--	0.2	16.0	--	--	--	
14.	4.3	--	0.2	17.0	--	--	--	
15.	3.5	--	0.2	18.0	--	--	--	
16.	4.1	--	0.1	8.0	--	--	--	
17.	4.1	--	0.2	25.5	--	--	--	
18.	4.1	--	0.3	21.0	--	--	--	
19.	3.7	--	0.1	16.0	--	--	--	
20.	3.2	--	0.1	13.0	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	4.8	--	0.2	20.0	--	--	--	
2.	3.9	--	0.1	15.0	--	--	--	
3.	3.9	--	0.1	20.0	--	--	--	
4.	3.9	--	0.1	17.5	--	--	--	
5.	4.7	--	0.1	20.0	--	--	--	
6.	4.1	--	0.1	15.0	--	--	--	
7.	4.5	--	0.1	18.7	--	--	--	
8.	4.7	--	0.1	16.0	--	--	--	
9.	3.8	--	0.1	11.0	--	--	--	
10.	4.5	--	0.1	18.5	--	--	--	
11.	4.5	--	0.2	27.5	--	--	--	
12.	3.8	--	0.1	17.0	--	--	--	
13.	4.3	10.2	0.1	24.5	--	--	--	
14.	4.9	--	0.2	25.5	--	--	--	
15.	4.4	--	0.1	18.0	--	--	--	
16.	4.7	--	0.1	13.5	--	--	--	
17.	4.9	--	0.1	22.0	--	--	--	
18.	4.9	--	0.1	30.2	--	--	--	
19.	4.9	--	0.1	20.0	--	--	--	
20.	4.9	--	0.1	21.0	--	--	--	(New plant)

AGROPYRON SMITHII

Study Area Upper Government Draw

Date 19 July 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGT. cm	MAX. SPIKE HGT. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	14.0	--	0.2	16.5	--	--	--	
2.	4.8	--	0.2	17.0	--	--	--	
3.	14.0	--	0.2	21.0	--	--	--	
4.	4.8	--	0.3	23.5	--	--	--	
5.	14.0	--	0.3	19.0	--	--	--	
6.	4.3	--	0.2	22.0	--	--	--	
7.	4.5	--	0.2	20.0	--	--	--	
8.	14.1	--	0.2	16.5	--	--	--	
9.	4.5	--	0.2	17.5	--	--	--	
10.	4.8	--	0.2	18.0	--	--	--	
11.	4.9	--	0.2	20.0	--	--	--	
12.	4.5	--	0.2	16.5	--	--	--	
13.	4.6	--	0.2	14.5	--	--	--	
14.	4.8	--	0.3	25.0	--	--	--	
15.	14.2	--	--	--	--	--	--	
16.	4.7	--	0.3	12.5	--	--	--	
17.	14.2	--	0.2	21.0	--	--	--	
18.	14.2	--	0.2	31.0	--	--	--	
19.	4.9	--	0.2	19.0	--	--	--	
20.	14.0	--	0.2	20.5	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	16.0	--	0.2	15.0	--	--	--	
2.	4.9	--	0.1	16.0	--	--	--	
3.	16.0	--	0.1	22.3	--	--	--	
4.	4.7	--	0.2	23.0	--	--	--	
5.	16.0	--	0.2	19.0	--	--	--	
6.	4.9	--	0.1	17.0	--	--	--	
7.	4.6	--	0.2	19.5	--	--	--	
8.	16.0	--	0.2	16.5	--	--	--	
9.	4.7	--	0.1	11.2	--	--	--	
10.	4.7	--	0.1	17.0	--	--	--	
11.	4.9	--	0.2	30.5	--	--	--	
12.	14.1	--	0.1	18.0	--	--	--	
13.	4.9	--	0.2	14.5	--	--	--	
14.	4.8	--	0.2	17.9	--	--	--	
15.	14.5	--	0.1	16.5	--	--	--	
16.	14.5	--	0.1	16.0	--	--	--	
17.	14.5	--	0.1	25.0	--	--	--	
18.	16.0	--	0.1	31.0	--	--	--	
19.	14.7	--	0.1	15.5	--	--	--	
20.	16.0	--	0.1	21.0	--	--	--	

AGROPYRON SMITHII

Study Area Upper Government Draw

Date 6 September 1977

PLANT NO.	PHENO. STAGE SCORE		MAX. LEAF WIDTH cm	MAX. LEAF HGTH. cm	MAX. SPIKE HGTH. cm	NOS. SPIKE- LETS/ CULM	NOS. OF VEG. PLANTS	
	VEG.	REPR.						
1.	16/3.3	---	---	---	---	---	---	
2.	16/2.7	---	---	---	---	---	---	
3.	16/2.8	---	---	---	---	---	---	
4.	16/2.7	---	---	---	---	---	---	
5.	16/3.3	---	---	---	---	---	---	
6.	4.9	---	---	---	---	---	---	
7.	16/3.3	---	---	---	---	---	---	
8.	14.6	---	---	---	---	---	---	
9.	16/1.7	---	---	---	---	---	---	
10.	16/2.8	---	---	---	---	---	---	
11.	16/2.7	---	---	---	---	---	---	
12.	16/2.4	---	---	---	---	---	---	
13.	16/1.7	---	---	---	---	---	---	
14.	16/2.9	---	---	---	---	---	---	
15.	16/3.2	---	---	---	---	---	---	
16.	16/2.7	---	---	---	---	---	---	
17.	16/1.9	---	---	---	---	---	---	
18.	16/2.7	---	---	---	---	---	---	
19.	16/3.2	---	---	---	---	---	---	
20.	16.4	---	---	---	---	---	---	

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	CULMS	
1.	1.7	--				0.1	3.1	--	--	--	--	
2.	1.2	--				0.1	1.5	--	--	--	--	
3.	1.4	--				0.1	2.2	--	--	--	--	
4.	1.5	--				0.1	2.5	--	--	--	--	
5.	2.3	--				0.1	4.0	--	--	--	--	
6.	1.3	--				0.1	1.7	--	--	--	--	
7.	17.0	--				--	--	--	--	--	--	
8.	1.9	--				0.1	3.4	--	--	--	--	
9.	1.4	--				0.1	1.3	--	--	--	--	
10.	1.8	--				0.1	2.3	--	--	--	--	
11.	1.3	--				0.1	1.0	--	--	--	--	
12.	1.5	--				0.1	2.0	--	--	--	--	
13.	2.3	--				0.1	3.0	--	--	--	--	
14.	1.8	--				0.1	2.3	--	--	--	--	
15.	3.5	--				0.1	1.0	--	--	--	--	
16.	17.0	--				--	--	--	--	--	--	
17.	1.4	--				0.1	1.5	--	--	--	--	
18.	1.6	--				0.1	2.1	--	--	--	--	
19.	2.2	--				0.1	3.2	--	--	--	--	
20.	1.4	--				0.1	1.5	--	--	--	--	

AGROPYRON SPICATUM

Study Area Cedar Mtn.

Date 19 May 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	SPIKE- LETS/ CULM	CULMS	CULMS	
1.	2.4	---	95.0	0.2	18.0	---	---	---	---	---	---	
2.	3.2	---	9.0	0.2	0.5	---	---	---	---	---	---	
3.	2.7	---	10.0	0.2	0.5	---	---	---	---	---	---	
4.	3.4	---	9.0	0.2	0.5	---	---	---	---	---	---	
5.	3.0	---	10.0	0.2	20.0	---	---	---	---	---	---	
6.	2.5	---	8.5	0.2	8.0	---	---	---	---	---	---	
7.	3.2	---	7.2	0.1	17.0	---	---	---	---	---	---	
8.	3.2	---	8.0	0.2	0.5	---	---	---	---	---	---	
9.	3.1	---	6.5	0.1	1.0	---	---	---	---	---	---	
10.	3.3	---	8.5	0.1	19.0	---	---	---	---	---	---	
11.	2.9	---	12.5	0.1	1.0	---	---	---	---	---	---	
12.	2.3	---	4.0	0.1	9.0	---	---	---	---	---	---	
13.	3.1	---	6.0	0.1	0.5	---	---	---	---	---	---	
14.	3.1	---	7.5	0.1	4.0	---	---	---	---	---	---	
15.	3.5	---	9.0	0.2	7.0	---	---	---	---	---	---	
16.	3.2	---	12.5	0.2	17.0	---	---	---	---	---	---	
17.	3.2	---	10.0	0.2	30.0	---	---	---	---	---	---	
18.	3.4	---	9.5	0.1	24.0	---	---	---	---	---	---	
19.	3.3	---	11.4	0.2	0.2	---	---	---	---	---	---	
20.	3.2	---	9.7	0.2	6.0	---	---	---	---	---	---	

AGROPYRON SPICATUM

Study Area Cedar Mtn.

Date 7 June 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	CULMS	
1.	2.6	--	95.0	0.2	18.0	0.1	9.4	--	--	--	--	
2.	3.3	--	9.0	0.2	0.5	0.1	7.5	--	--	--	--	
3.	3.4	--	10.0	0.2	0.5	0.1	9.5	--	--	--	--	
4.	4.2	--	9.0	0.2	0.5	0.1	13.4	--	--	--	--	
5.	3.2	--	10.0	0.2	20.0	0.1	11.0	--	--	--	--	
6.	3.4	--	8.5	0.2	8.0	0.1	9.0	--	--	--	--	
7.	3.3	--	7.2	0.1	17.0	0.1	8.4	--	--	--	--	
8.	3.4	--	8.0	0.2	0.5	0.1	10.6	--	--	--	--	
9.	3.4	--	6.5	0.1	1.0	0.1	9.0	--	--	--	--	
10.	3.3	--	8.5	0.1	19.0	0.1	11.8	--	--	--	--	
11.	3.0	--	12.5	0.1	1.0	0.1	12.7	--	--	--	--	
12.	2.7	--	4.0	0.1	9.0	0.1	4.0	--	--	--	--	
13.	3.1	--	6.0	0.1	0.5	0.1	4.7	--	--	--	--	
14.	3.6	--	7.5	0.1	4.0	0.1	10.5	--	--	--	--	
15.	3.4	--	9.0	0.2	7.0	0.1	11.1	--	--	--	--	
16.	3.6	--	12.5	0.2	17.0	0.1	16.4	--	--	--	--	
17.	3.4	--	10.0	0.2	30.0	0.1	13.5	--	--	--	--	
18.	3.4	--	9.5	0.1	24.0	0.1	11.6	--	--	--	--	
19.	3.4	--	11.4	0.2	0.2	0.1	14.2	--	--	--	--	
20.	3.2	--	9.7	0.2	6.0	0.1	6.2	--	--	--	--	

AGROPYRON SPICATUM

Study Area Cedar Mtn.

Date 27 June 1978

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGHT	MAX SPIKE HGHT	NOS SPIKE- LETS/ CULM	NOS REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	3.5	---	95.0	0.2	18.0	0.1	10.1	---	---	---	---	
2.	3.4	---	9.0	0.2	0.5	0.1	6.2	---	---	---	---	
3.	3.5	---	10.0	0.2	0.5	0.1	8.2	---	---	---	---	
4.	4.4	---	9.0	0.2	0.5	0.1	16.8	---	---	---	---	
5.	3.4	---	10.0	0.2	20.0	0.1	10.4	---	---	---	---	
6.	3.5	---	8.5	0.2	8.0	0.1	8.5	---	---	---	---	
7.	3.7	---	7.2	0.1	17.0	0.1	9.0	---	---	---	---	
8.	3.6	---	8.0	0.2	0.5	0.1	11.1	---	---	---	---	Retarded growth
9.	3.5	---	6.5	0.1	1.0	0.1	9.0	---	---	---	---	No. 4th leave repr.
10.	14.3	---	8.5	0.1	19.0	0.1	10.0	---	---	---	---	stages
11.	3.9	---	12.5	0.1	1.0	0.1	12.5	---	---	---	---	
12.	14.3	---	4.0	0.1	9.0	0.1	8.0	---	---	---	---	
13.	3.3	---	6.0	0.1	0.5	0.1	5.4	---	---	---	---	
14.	3.8	---	7.5	0.1	4.0	0.1	9.0	---	---	---	---	
15.	3.6	---	9.0	0.2	7.0	0.1	9.7	---	---	---	---	
16.	3.9	---	12.5	0.2	17.0	0.1	15.0	---	---	---	---	
17.	3.5	---	10.0	0.2	30.0	0.1	10.2	---	---	---	---	
18.	14.2	---	9.5	0.1	24.0	0.1	12.4	---	---	---	---	
19.	14.2	---	11.4	0.2	0.2	0.1	12.5	---	---	---	---	
20.	14.1	---	9.7	0.2	6.0	0.1	10.4	---	---	---	---	

AGROPYRON SPICATUM

Study Area Cedar Mtn.

Date 19 July 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/ CULM	CULMS	CULMS	
			cm	cm	cm	cm	cm	cm				
1.	14.2	--	95.0	0.2	18.0	0.1	21.5	--	--	--	--	
2.	14.5	--	9.0	0.2	0.5	0.1	10.0	--	--	--	--	
3.	14.0	--	10.0	0.2	0.5	0.1	11.0	--	--	--	--	
4.	14.1	--	9.0	0.2	0.5	0.1	16.5	--	--	--	--	
5.	14.3	--	10.0	0.2	20.0	0.1	9.0	--	--	--	--	
6.	14.2	--	8.5	0.2	8.0	0.1	9.2	--	--	--	--	
7.	14.1	--	7.2	0.1	17.0	0.1	9.0	--	--	--	--	
8.	14.3	--	8.0	0.2	0.5	0.1	15.0	--	--	--	--	
9.	14.3	--	6.5	0.1	1.0	0.1	4.5	--	--	--	--	
10.	14.5	--	8.5	0.1	19.0	0.1	8.0	--	--	--	--	
11.	14.3	--	12.5	0.1	1.0	0.1	14.0	--	--	--	--	
12.	14.5	--	4.0	0.1	9.0	0.1	10.5	--	--	--	--	
13.	14.5	--	6.0	0.1	0.5	0.1	9.0	--	--	--	--	
14.	14.5	--	7.5	0.1	4.0	0.1	8.9	--	--	--	--	
15.	14.7	--	9.0	0.2	7.0	0.1	15.0	--	--	--	--	
16.	14.0	--	12.5	0.2	17.0	0.1	13.2	--	--	--	--	
17.	14.1	--	10.0	0.2	30.0	0.1	10.5	--	--	--	--	
18.	14.3	--	9.5	0.1	24.0	0.1	13.5	--	--	--	--	
19.	14.3	--	11.4	0.2	0.2	0.1	9.2	--	--	--	--	
20.	14.2	--	9.7	0.2	6.0	0.1	8.5	--	--	--	--	

AGROPYRON SPICATUM

Study Area Cedar Mtn.

Date 17 Aug. 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/	CULMS	CULMS	
			cm	cm	cm	cm	cm	cm	CULM			
1.	16.3	15.8	95.0	0.2	18.0	0.1	17.1	--	--	--	--	
2.	16.3	15.8	9.0	0.2	0.5	0.1	4.5	--	--	--	--	
3.	16.3	15.8	10.0	0.2	0.5	0.2	6.1	--	--	--	--	
4.	16.4	15.8	9.0	0.2	0.5	0.2	17.7	--	--	--	--	
5.	16.3	15.8	10.0	0.2	20.0	0.2	8.2	--	--	--	--	
6.	16.2	15.8	8.5	0.2	8.0	0.2	6.0	--	--	--	--	
7.	16.3	15.8	7.2	0.1	17.0	0.2	11.0	--	--	--	--	Data on
8.	16.3	15.8	8.0	0.2	0.5	0.1	16.2	--	--	--	--	regreening
9.	16.4	15.8	6.5	0.1	1.0	0.1	6.2	--	--	--	--	culms
10.	16.3	15.8	8.5	0.1	19.0	0.2	7.4	--	--	--	--	
11.	16.3	15.8	12.5	0.1	1.0	0.2	12.0	--	--	--	--	
12.	14.6	15.8	4.0	0.1	9.0	0.1	5.3	--	--	--	--	
13.	16.1	15.8	6.0	0.1	0.5	0.1	6.2	--	--	--	--	
14.	16.4	15.8	7.5	0.1	4.0	0.1	8.2	--	--	--	--	
15.	16.4	15.8	9.0	0.2	7.0	0.2	12.5	--	--	--	--	
16.	16.4	15.8	12.5	0.2	17.0	0.2	15.7	--	--	--	--	
17.	16.3	15.8	10.0	0.2	30.0	0.2	5.9	--	--	--	--	
18.	16.2	15.8	9.5	0.1	24.0	0.1	6.5	--	--	--	--	
19.	16.4	15.8	11.4	0.2	0.2	0.1	14.2	--	--	--	--	
20.	16.2	15.8	9.7	0.2	6.0	0.2	8.0	--	--	--	--	

AGROPYRON SPICATUM

Study Area Cedar Mtn.

Date 9 Sept. 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/	CULMS	CULMS	
1.	16.4	--	--	--	7.0	0.1	7.0	--	--	--	--	3/2
2.	16.4	--	--	--	1.0	0.1	4.6	--	--	--	2.0	1/2
3.	16.4	--	--	--	1.0	0.2	8.0	--	--	--	4.0	2/2
4.	16.6	--	24.0	13.0	--	0.2	8.0	--	--	--	--	4/1
5.	16.4	--	17.0	10.0	--	0.2	18.9	--	--	--	--	3/1
6.	16.4	--	29.0	23.0	--	0.2	8.0	--	--	--	--	5/1
7.	16.4	--	--	--	12.0	0.2	6.2	--	--	--	--	3/2
8.	16.4	--	--	--	8.0	0.1	6.0	--	--	--	--	3/2
9.	16.4	--	--	--	13.0	0.1	2.5	--	--	--	--	4/1
10.	16.4	--	--	--	16.0	0.2	8.5	--	--	--	--	3/2
11.	16.5	--	--	--	8.0	0.2	11.3	--	--	--	--	2/3
12.	16.1	--	--	--	15.0	0.1	5.7	--	--	--	--	5/4
13.	16.2	--	39.0	16.0	--	0.1	3.2	--	--	--	--	5/1
14.	16.4	--	--	--	4.0	0.1	7.2	--	--	--	--	2/1
15.	16.5	--	--	--	10.0	0.2	5.6	--	--	--	--	5/1
16.	16.6	--	--	--	16.0	0.2	15.2	--	--	--	--	3/2
17.	16.4	--	30.0	9.0	--	0.2	6.4	--	--	--	--	4/2
18.	16.4	--	30.0	20.0	--	0.1	8.0	--	--	--	--	4/2
19.	16.5	--	--	--	20.0	0.1	12.0	--	--	--	--	4/1
20.	16.6	--	--	--	20.0	0.2	13.5	--	--	--	--	4/2

AGROPRYON SPICATUM

Study Area Cedar Mtn.

Date 5 November 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	CULMS	
1.	17.0	--	--	--	7.0	0.1	7.0	--	--	--	--	
2.	16.8	--	--	--	1.0	0.1	4.6	--	--	--	--	
3.	16.5	--	--	--	1.0	0.2	8.0	--	--	--	--	Eaten
4.	16.7	--	24.0	13.0	--	0.2	8.0	--	--	--	--	
5.	16.9	--	17.0	10.0	--	0.2	18.9	--	--	--	--	
6.	16.7	--	29.0	23.0	--	0.2	8.0	--	--	--	--	
7.	16.7	--	--	--	12.0	0.2	6.2	--	--	--	--	
8.	16.6	--	--	--	8.0	0.1	6.0	--	--	--	--	
9.	16.5	--	--	--	13.0	0.1	2.5	--	--	--	--	
10.	16.7	--	--	--	16.0	0.2	8.5	--	--	--	--	Eaten
11.	16.8	--	--	--	8.0	0.2	11.3	--	--	--	--	
12.	17.0	--	--	--	15.0	0.1	5.7	--	--	--	--	Eaten
13.	16.9	--	39.0	16.0	--	0.1	3.2	--	--	--	--	
14.	16.7	--	--	--	4.0	0.1	7.2	--	--	--	--	
15.	16.6	--	--	--	10.0	0.2	5.6	--	--	--	--	Eaten
16.	16.7	--	--	--	16.0	0.2	15.2	--	--	--	--	
17.	16.7	--	30.0	9.0	--	0.2	6.4	--	--	--	--	
18.	16.8	--	30.0	20.0	--	0.1	8.0	--	--	--	--	
19.	16.7	--	--	--	20.0	0.1	12.0	--	--	--	--	
20.	16.6	--	--	--	20.0	0.2	13.5	--	--	--	--	

AGROPYRON SPICATUM

Study Area Cumberland #3Date 19 May 1977

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PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS	NOS	NOS	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/	SPIKE-REPR	VEG	
			cm	cm	cm	cm	cm	cm	CULM	CULMS	CULMS	
1.	3.4	--	11.2	.2	14.0	--	--	--	--	--	--	
2.	3.3	--	10.0	.1	18.0	--	--	--	--	--	--	
3.	3.4	--	13.0	.1	15.0	--	--	--	--	--	--	
4.	2.9	--	16.6	.3	8.0	--	--	--	--	--	--	
5.	3.4	--	18.0	.1	8.0	--	--	--	--	--	--	
6.	3.5	--	13.2	.2	5.0	--	--	--	--	--	--	
7.	3.2	--	17.5	.2	11.0	--	--	--	--	--	--	
8.	3.4	--	10.0	.2	.5	--	--	--	--	--	--	
9.	3.3	--	15.0	.2	11.0	--	--	--	--	--	--	
10.	3.2	--	19.2	.1	10.0	--	--	--	--	--	--	
11.	3.1	--	14.0	.1	17.0	--	--	--	--	--	--	
12.	3.4	--	11.2	.2	12.0	--	--	--	--	--	--	
13.	3.2	--	15.2	.2	10.0	--	--	--	--	--	--	
14.	2.7	--	11.0	.1	.5	--	--	--	--	--	--	
15.	4.0	--	13.5	.2	3.0	--	--	--	--	--	--	
16.	4.2	--	14.5	.2	8.0	--	--	--	--	--	--	
17.	2.9	--	11.0	.2	.5	--	--	--	--	--	--	
18.	3.2	--	10.2	.2	.5	--	--	--	--	--	--	
19.	3.2	--	13.2	.2	.3	--	--	--	--	--	--	
20.	4.2	--	16.5	.2	4.0	--	--	--	--	--	--	

AGROPYRON SPICATUM

Study Area Cumberland #3

Date 7 June 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGHT	MAX SPIKE HGHT	NOS SPIKE- LETS/ CULM	NOS REPR- CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	4.4	--	11.2	0.2	14.0	0.1	22.3	--	--	--	--	
2.	3.4	--	10.0	0.1	18.0	0.1	10.5	--	--	--	--	
3.	4.1	--	13.0	0.1	15.0	0.2	21.0	--	--	--	--	
4.	3.9	--	16.6	0.3	8.0	0.2	23.0	--	--	--	--	
5.	4.1	--	18.0	0.1	8.0	0.2	23.2	--	--	--	--	
6.	4.1	--	13.2	0.2	5.0	0.1	10.0	--	--	--	--	
7.	4.2	--	17.5	0.2	11.0	0.2	26.8	--	--	--	--	
8.	3.4	--	10.0	0.2	0.5	0.1	16.0	--	--	--	--	
9.	4.5	--	15.0	0.2	11.0	0.2	23.2	--	--	--	--	
10.	4.5	--	19.2	0.1	10.0	0.1	15.1	--	--	--	--	
11.	3.8	--	14.0	0.1	17.0	0.1	18.0	--	--	--	--	
12.	4.3	--	11.2	0.2	12.0	0.1	19.0	--	--	--	--	
13.	3.7	--	15.2	0.2	10.0	0.1	12.2	--	--	--	--	
14.	3.1	--	11.0	0.1	0.5	0.1	12.3	--	--	--	--	
15.	4.2	--	13.5	0.2	3.0	0.1	26.3	--	--	--	--	
16.	4.2	--	14.5	0.2	8.0	0.1	8.8	--	--	--	--	
17.	3.4	--	11.0	0.2	0.5	0.2	27.1	--	--	--	--	
18.	3.5	--	10.2	0.2	0.5	0.2	15.0	--	--	--	--	
19.	3.4	--	13.2	0.2	0.3	0.1	17.0	--	--	--	--	
20.	4.1	--	16.5	0.2	4.0	0.2	18.1	--	--	--	--	

AGROPYRON SPICATUM

Study Area Cumberland #3

Date 28 June 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGT	MAX SPIKE HGT	NOS SPIKE- LETS/ CULM	NOS REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	4.4	--	11.2	0.2	14.0	.1	22.4	--	--	--	--	
2.	4.5	--	10.0	0.1	18.0	.1	19.8	--	--	--	--	
3.	4.5	--	13.0	0.1	15.0	.2	21.3	--	--	--	--	
4.	4.2	--	16.6	0.3	8.0	.2	22.0	--	--	--	--	
5.	4.4	--	18.0	0.1	8.0	.2	17.2	--	--	--	--	
6.	4.4	--	13.2	0.2	5.0	.1	16.1	--	--	--	--	
7.	4.3	--	17.5	0.2	11.0	.2	24.2	--	--	--	--	
8.	4.2	--	10.0	0.2	0.5	.1	15.0	--	--	--	--	
9.	4.6	--	15.0	0.2	11.0	.2	23.5	--	--	--	--	
10.	4.6	--	19.2	0.1	10.0	.1	13.5	--	--	--	--	
11.	3.9	--	14.0	0.1	17.0	.1	24.0	--	--	--	--	
12.	4.9	--	11.2	0.2	12.0	.1	22.0	--	--	--	--	
13.	4.5	--	15.2	0.2	10.0	.1	20.3	--	--	--	--	
14.	3.8	--	11.0	0.1	0.5	.1	12.1	--	--	--	--	
15.	4.7	--	12.5	0.2	3.0	.1	21.7	--	--	--	--	
16.	4.9	--	14.5	0.2	8.0	.1	14.1	--	--	--	--	
17.	3.7	--	11.0	0.2	0.5	.2	26.0	--	--	--	--	
18.	4.2	--	10.2	0.2	0.5	.2	17.0	--	--	--	--	
19.	3.8	--	13.2	0.2	0.3	.1	17.2	--	--	--	--	beginning to brown
20.	14.1	--	16.5	0.2	4.0	.2	18.0	--	--	--	--	

AGROPYRON SPICATUM

Study Area Cumberland #3

Date 20 July 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGHT	MAX SPIKE HGHT	NOS SPIKE- LETS/ CULM	NOS REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	4.4	--	11.2	0.2	14.0	.1	25.5	--	--	--	--	
2.	4.6	--	10.0	0.2	18.0	.1	22.5	--	--	--	--	
3.	4.5	--	13.0	0.1	15.0	.2	23.8	--	--	--	--	
4.	4.9	--	16.6	0.3	8.0	.2	17.8	--	--	--	--	
5.	4.5	--	18.0	0.1	8.0	.2	25.5	--	--	--	--	
6.	4.8	--	13.2	0.2	5.0	.1	11.0	--	--	--	--	
7.	4.3	--	12.5	0.2	11.0	.2	23.0	--	--	--	--	
8.	4.9	--	10.0	0.2	0.5	.1	13.9	--	--	--	--	
9.	4.4	--	15.0	0.2	11.0	.1	16.2	--	--	--	--	
10.	4.4	--	19.2	0.1	10.0	.1	14.5	--	--	--	--	
11.	4.1	--	14.0	0.1	17.0	.1	20.5	--	--	--	--	
12.	4.4	--	11.2	0.2	12.0	.2	25.6	--	--	--	--	
13.	4.7	--	15.2	0.2	10.0	.1	17.5	--	--	--	--	
14.	3.6	--	11.0	0.1	0.5	.1	12.9	--	--	--	--	
15.	4.3	--	13.5	0.2	3.0	.1	27.0	--	--	--	--	
16.	4.9	--	14.5	0.2	8.0	.1	13.5	--	--	--	--	
17.	3.9	--	11.0	0.2	0.5	.2	21.0	--	--	--	--	
18.	4.8	--	10.2	0.2	0.5	.2	19.6	--	--	--	--	
19.	4.8	--	13.2	0.2	0.3	.1	17.3	--	--	--	--	
20.	14.2	--	16.5	0.2	4.0	.1	15.0	--	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGT	MAX SPIKE HGT	NOS SPIKE- LETS/ CULM	NOS SPIKE- REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm	cm	cm	cm	
1.	4.7	--	11.2	0.2	14.0	0.2	20.2	--	--	--	--	
2.	4.7	--	10.0	0.2	18.0	0.2	20.5	--	--	--	--	
3.	4.9	--	13.0	0.1	15.0	0.2	22.3	--	--	--	--	
4.	4.9	--	16.6	0.3	8.0	0.2	22.7	--	--	--	--	
5.	4.9	--	18.0	0.1	8.0	0.2	26.2	--	--	--	--	
6.	14.5	--	13.2	0.2	5.0	0.1	9.0	--	--	--	--	
7.	4.8	--	17.5	0.2	11.0	0.2	20.9	--	--	--	--	
8.	4.9	--	10.0	0.2	0.5	0.1	17.5	--	--	--	--	
9.	4.8	--	15.0	0.2	11.0	0.2	19.2	--	--	--	--	
10.	4.5	--	19.2	0.1	10.0	0.2	14.5	--	--	--	--	
11.	4.3	--	14.0	0.1	17.0	0.2	20.1	--	--	--	--	
12.	4.6	--	11.2	0.2	12.0	0.2	25.2	--	--	--	--	
13.	4.9	--	15.2	0.2	10.0	0.2	20.5	--	--	--	--	
14.	3.6	--	11.0	0.1	0.5	0.2	12.1	--	--	--	--	
15.	4.3	--	13.5	0.2	3.0	0.2	21.5	--	--	--	--	
16.	4.9	--	14.5	0.2	8.0	0.2	13.0	--	--	--	--	
17.	3.9	--	11.0	0.2	0.5	0.2	21.0	--	--	--	--	
18.	14.2	--	10.2	0.2	0.5	0.1	25.0	--	--	--	--	
19.	14.6	--	13.2	0.2	0.3	0.1	14.0	--	--	--	--	
20.	14.3	--	16.5	0.2	4.0	0.2	24.0	--	--	--	--	

AGROPYRON SPICATUM

Study Area Cumberland #3Date 8 September 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	CULMS	
1.	16/3.5	---	11.0	4.0	---	0.2	16.0	---	---	---	---	3/2
2.	16/3.6	---	16.0	3.0	---	0.2	20.0	---	---	---	---	3/2
3.	16/3.2	---	---	---	15.0	0.2	23.0	---	---	---	---	3/3
4.	16/3.7	---	---	---	1.0	0.2	13.0	---	---	---	1	2/3
5.	16/3.2	---	---	---	2.4	0.2	9.2	---	---	---	6	2/3
6.	16/3.7	---	---	---	10.0	0.2	8.0	---	---	---	---	3/2
7.	16/3.3	---	---	---	14.0	0.2	22.0	---	---	---	---	3/2
8.	16/3.7	---	---	---	1.0	0.2	8.5	---	---	---	1	2/3
9.	16/3.6	---	9.0	4.0	---	0.2	19.0	---	---	---	---	2/2
10.	16/3.2	---	4.0	1.5	---	0.2	6.2	---	---	---	7	1/2
11.	16/4.1	---	---	---	16.0	0.2	32.0	---	---	---	---	3/3
12.	16/3.4	---	---	---	14.0	0.2	12.0	---	---	---	---	3/2
13.	16/3.2	---	---	---	14.0	0.2	7.2	---	---	---	---	3/1
14.	4.1	---	---	---	2.0	0.2	15.2	---	---	---	5	2/3
15.	16/2.9	---	---	---	5.0	0.2	12.5	---	---	---	---	2/1
16.	16/2.9	---	---	---	3.0	0.2	8.5	---	---	---	6	2/2
17.	16/4.4	---	---	---	2.0	0.2	31.2	---	---	---	2	2/3
18.	16/4.7	---	---	---	1.0	0.2	20.4	---	---	---	2	2/3
19.	16/4.2	---	---	---	3.0	0.2	15.5	---	---	---	3	2/1
20.	16/3.4	---	---	---	23.0	0.2	22.0	---	---	---	---	5/2

AGOPYRON SPICATUM

Study Area Cumberland #3Date 5 November 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGT	MAX SPIKE HGT	NOS SPIKE- LETS/ CULM	NOS REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	16.5	--	11.0	4.0	--	--	--	--	--	--	--	
2.	16.6	--	16.0	3.0	--	--	--	--	--	--	--	
3.	16.5	--	--	--	15.0	--	--	--	--	--	--	
4.	16.5	--	--	--	1.0	--	--	--	--	--	--	
5.	16.6	--	--	--	2.4	--	--	--	--	--	--	
6.	16.7	--	--	--	10.0	--	--	--	--	--	--	
7.	16.6	--	--	--	14.0	--	--	--	--	--	--	
8.	16.7	--	--	--	1.0	--	--	--	--	--	--	
9.	16.6	--	9.0	4.0	--	--	--	--	--	--	--	
10.	16.8	--	4.0	1.5	--	--	--	--	--	--	--	
11.	16.5	--	--	--	16.0	--	--	--	--	--	--	
12.	16.5	--	--	--	14.0	--	--	--	--	--	--	
13.	16.5	--	--	--	14.0	--	--	--	--	--	--	
14.	16.8	--	--	--	2.0	--	--	--	--	--	--	
15.	16.6	--	--	--	5.0	--	--	--	--	--	--	
16.	16.5	--	--	--	3.0	--	--	--	--	--	--	
17.	16.5	--	--	--	2.0	--	--	--	--	--	--	
18.	16.6	--	--	--	1.0	--	--	--	--	--	--	
19.	16.9	--	--	--	3.0	--	--	--	--	--	--	
20.	16.6	--	--	--	23.0	--	--	--	--	--	--	

AGROPYRON SPICATUM

Study Area DEMER

Date 23 April 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE-	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/ CULM	CULMS	CULMS	
			cm	cm	cm	cm	cm	cm				
1.	3.3	---	---	---	---	0.3	15.5	---	---	---	---	
2.	3.1	---	---	---	---	0.2	15.3	---	---	---	---	
3.	3.6	---	---	---	---	0.2	13.2	---	---	---	---	
4.	2.6	---	---	---	---	0.1	9.4	---	---	---	---	
5.	3.4	---	---	---	---	0.1	8.3	---	---	---	---	
6.	3.3	---	---	---	---	0.1	10.9	---	---	---	---	
7.	---	---	---	---	---	---	---	---	---	---	---	
8.	---	---	---	---	---	---	---	---	---	---	---	
9.	---	---	---	---	---	---	---	---	---	---	---	
10.	---	---	---	---	---	---	---	---	---	---	---	
11.	---	---	---	---	---	---	---	---	---	---	---	
12.	---	---	---	---	---	---	---	---	---	---	---	
13.	---	---	---	---	---	---	---	---	---	---	---	
14.	---	---	---	---	---	---	---	---	---	---	---	
15.	---	---	---	---	---	---	---	---	---	---	---	
16.	---	---	---	---	---	---	---	---	---	---	---	
17.	---	---	---	---	---	---	---	---	---	---	---	
18.	---	---	---	---	---	---	---	---	---	---	---	
19.	---	---	---	---	---	---	---	---	---	---	---	
20.	---	---	---	---	---	---	---	---	---	---	---	

AGROPYRON SPICATUM

Study Area DEMER

Date 9 June 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM. cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	CULMS	
1.	3.9	---	---	---	12.0	.3	---	---	---	---	---	
2.	4.7	6.5	---	---	33.0	.4	28.7	34.0	11.0	---	---	
3.	4.6	6.6	---	---	19.0	.2	36.5	44.2	6.0	---	---	
4.	4.6	6.7	---	---	26.0	.3	43.3	55.0	6.0	---	---	
5.	4.6	6.8	---	---	22.0	.2	27.0	34.6	4.0	---	---	
6.	3.7	6.4	---	---	8.5	.2	26.5	36.2	2.0	---	---	
7.	---	---	---	---	---	---	---	---	---	---	---	
8.	---	---	---	---	---	---	---	---	---	---	---	
9.	---	---	---	---	---	---	---	---	---	---	---	
10.	---	---	---	---	---	---	---	---	---	---	---	
11.	---	---	---	---	---	---	---	---	---	---	---	
12.	---	---	---	---	---	---	---	---	---	---	---	
13.	---	---	---	---	---	---	---	---	---	---	---	
14.	---	---	---	---	---	---	---	---	---	---	---	
15.	---	---	---	---	---	---	---	---	---	---	---	
16.	---	---	---	---	---	---	---	---	---	---	---	
17.	---	---	---	---	---	---	---	---	---	---	---	
18.	---	---	---	---	---	---	---	---	---	---	---	
19.	---	---	---	---	---	---	---	---	---	---	---	
20.	---	---	---	---	---	---	---	---	---	---	---	

AGROPYRON SPICATUM

Study Area Demer

Date 20 July 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGT	MAX SPIKE HGT	NOS SPIKE- LETS/ CULM	NOS REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	14.2	---	---	---	6.0	---	---	---	---	---	---	
2.	14.2	12.1	33.0	15.0	---	0.3	32.0	31.0	---	---	---	
3.	14.2	12.5	17.0	12.0	---	0.3	39.5	58.0	---	---	---	
4.	14.2	12.4	---	---	27.0	0.3	45.0	57.0	---	---	---	
5.	14.2	12.3	---	---	16.0	0.2	31.0	44.0	---	---	---	
6.	14.2	12.3	10.0	6.0	---	0.3	30.0	38.0	---	---	---	
7.	---	---	---	---	---	---	---	---	---	---	---	
8.	---	---	---	---	---	---	---	---	---	---	---	
9.	---	---	---	---	---	---	---	---	---	---	---	
10.	---	---	---	---	---	---	---	---	---	---	---	
11.	---	---	---	---	---	---	---	---	---	---	---	
12.	---	---	---	---	---	---	---	---	---	---	---	
13.	---	---	---	---	---	---	---	---	---	---	---	
14.	---	---	---	---	---	---	---	---	---	---	---	
15.	---	---	---	---	---	---	---	---	---	---	---	
16.	---	---	---	---	---	---	---	---	---	---	---	
17.	---	---	---	---	---	---	---	---	---	---	---	
18.	---	---	---	---	---	---	---	---	---	---	---	
19.	---	---	---	---	---	---	---	---	---	---	---	
20.	---	---	---	---	---	---	---	---	---	---	---	

AGROPYRON SPICATUM

Study Area Demer

Date 17 September 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGT	MAX SPIKE HGT	NOS SPIKE LETS/ CULM	NOS REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	16.4	--	--	--	6.0	--	--	--	--	--	--	Eaten
2.	16.4	15.4	33.0	15.0	--	0.3	32.0	31.0	--	--	--	
3.	14.7	15.5	17.0	12.0	--	0.3	39.5	58.0	--	--	--	
4.	16.1	15.5	--	--	27.0	0.3	45.0	57.0	--	--	--	
5.	14.4	15.6	--	--	16.0	0.2	31.0	44.0	--	--	--	
6.	16.3	15.8	10.0	6.0	--	0.3	30.0	38.0	--	--	--	
7.	--	--	--	--	--	--	--	--	--	--	--	
8.	--	--	--	--	--	--	--	--	--	--	--	
9.	--	--	--	--	--	--	--	--	--	--	--	
10.	--	--	--	--	--	--	--	--	--	--	--	
11.	--	--	--	--	--	--	--	--	--	--	--	
12.	--	--	--	--	--	--	--	--	--	--	--	
13.	--	--	--	--	--	--	--	--	--	--	--	
14.	--	--	--	--	--	--	--	--	--	--	--	
15.	--	--	--	--	--	--	--	--	--	--	--	
16.	--	--	--	--	--	--	--	--	--	--	--	
17.	--	--	--	--	--	--	--	--	--	--	--	
18.	--	--	--	--	--	--	--	--	--	--	--	
19.	--	--	--	--	--	--	--	--	--	--	--	
20.	--	--	--	--	--	--	--	--	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/ CULM	CULMS	CULMS	
1.	3.5	--	--	--	--	0.2	11.6	--	--	--	--	
2.	3.4	--	--	--	--	0.2	11.0	--	--	--	--	
3.	3.1	--	--	--	--	0.2	14.2	--	--	--	--	
4.	3.2	--	--	--	--	0.2	8.2	--	--	--	--	
5.	3.3	--	--	--	--	0.2	8.9	--	--	--	--	
6.	3.5	--	--	--	--	0.3	18.8	--	--	--	--	
7.	4.1	--	--	--	--	0.3	19.2	--	--	--	--	
8.	3.4	--	--	--	--	0.2	12.6	--	--	--	--	
9.	3.4	--	--	--	--	0.2	14.2	--	--	--	--	
10.	3.3	--	--	--	--	0.2	18.5	--	--	--	--	
11.	3.2	--	--	--	--	0.2	5.5	--	--	--	--	
12.	2.6	--	--	--	--	0.1	9.2	--	--	--	--	
13.	4.1	--	--	--	--	0.1	16.7	--	--	--	--	
14.	3.3	--	--	--	--	0.2	15.3	--	--	--	--	
15.	3.5	--	--	--	--	0.3	13.5	--	--	--	--	
16.	3.3	--	--	--	--	0.2	7.5	--	--	--	--	
17.	3.1	--	--	--	--	0.1	6.1	--	--	--	--	
18.	4.1	--	--	--	--	0.2	14.7	--	--	--	--	
19.	3.6	--	--	--	--	0.2	9.7	--	--	--	--	
20.	3.3	--	--	--	--	0.2	19.2	--	--	--	--	

AGROPYRON SPICATUM

Study Area HorsecreekDate 17 May 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGT	MAX SPIKE HGT	NOS SPIKE- LETS/ CULM	NOS REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	4.4	5.7	--	--	15.0	0.7	16.5	--	--	--	--	
2.	4.3	5.6	--	--	10.0	0.2	19.5	--	--	--	--	
3.	4.6	6.1	--	--	12.0	0.2	33.0	--	--	--	--	
4.	3.6	--	--	--	2.0	0.2	15.2	--	--	--	--	
5.	3.4	--	--	--	1.0	0.2	13.4	--	--	--	--	
6.	4.4	5.4	--	--	18.0	0.3	18.5	--	--	--	--	
7.	4.3	5.2	--	--	10.0	0.3	29.5	--	--	--	--	
8.	4.2	--	--	--	20.0	0.2	17.0	--	--	--	--	
9.	4.2	5.7	--	--	10.0	0.2	24.0	--	--	--	--	
10.	3.7	--	--	--	17.0	0.2	20.5	--	--	--	--	
11.	3.3	--	--	--	0.5	0.2	10.2	--	--	--	--	
12.	3.5	--	--	--	28.0	0.2	15.0	--	--	--	--	
13.	4.2	--	--	--	5.0	0.2	28.0	--	--	--	--	
14.	4.6	--	--	--	30.0	0.2	22.2	--	--	--	--	
15.	4.2	5.7	--	--	10.0	0.3	23.6	--	--	--	--	
16.	4.4	--	--	--	0.3	0.3	10.5	--	--	--	--	
17.	4.1	--	--	--	2.0	0.2	11.5	--	--	--	--	
18.	4.4	--	--	--	1.0	0.3	17.0	--	--	--	--	
19.	4.5	--	--	--	1.0	0.2	15.2	--	--	--	--	
20.	4.4	6.2	--	--	28.0	0.2	19.2	--	--	--	--	

AGROPYRON SPICATUM

Study Area Horsecreek

Date 9 June 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGT	MAX SPIKE HGT	NOS SPIKE- LETS/ CULM	NOS REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	4.9	7.5	--	--	15.0	0.3	31.5	--	5	--	--	
2.	4.9	7.7	--	--	10.0	0.3	37.0	--	8	--	--	
3.	4.9	7.7	--	--	12.0	0.3	31.5	--	6	--	--	
4.	3.6	--	--	--	2.0	0.2	13.2	--	--	--	--	
5.	3.6	--	--	--	1.0	0.2	4.0	--	--	--	--	
6.	4.7	7.1	--	--	18.0	0.2	26.0	--	5	--	--	
7.	4.4	--	--	--	10.0	0.2	28.2	--	--	--	--	
8.	4.7	6.7	--	--	20.0	0.2	19.0	--	3	--	--	
9.	4.6	6.6	--	--	10.0	0.2	24.0	--	2	--	--	
10.	4.4	--	--	--	17.0	0.2	14.5	--	--	--	--	
11.	3.3	--	--	--	0.5	0.2	12.2	--	--	--	--	
12.	3.9	--	--	--	28.0	0.1	19.0	--	--	--	--	
13.	4.6	--	--	--	5.0	0.2	16.5	--	--	--	--	
14.	4.6	--	--	--	30.0	0.2	19.7	--	--	--	--	
15.	4.6	--	--	--	10.0	--	--	--	3	--	--	
16.	4.8	6.7	--	--	3.0	0.2	22.2	--	--	--	--	
17.	4.6	--	--	--	2.0	0.2	13.2	--	--	--	--	
18.	4.7	--	--	--	1.0	0.2	19.0	--	--	--	--	
19.	4.5	--	--	--	1.0	--	13.5	--	--	--	--	
20.	4.7	--	--	--	28.0	0.2	25.2	--	--	--	--	

AGROPYRON SPICATUM

Study Area Horsecreek

Date 30 June 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM.	CULMS	CULMS	
1.	14.1	11.4	--	--	16.0	0.2	14.6	39.4	6	23	12%	
2.	14.1	11.3	--	--	11.0	0.2	14.3	37.5	8	27	20%	
3.	14.1	11.3	12.0	8.0	--	0.2	25.2	29.2	7	5	5%	
4.	14.2	--	--	--	2.0	0.1	13.1	--	--	--	11%	
5.	14.2	--	--	--	2.0	0.2	11.8	--	--	--	3%	
6.	14.2	11.3	15.0	12.0	--	0.2	25.3	38.2	5	11	3%	
7.	14.2	11.4	--	--	6.0	0.2	29.5	32.4	6	5	7%	
8.	14.3	11.2	--	--	16.0	0.2	23.2	31.6	5	5	1%	
9.	14.1	11.3	--	--	2.0	0.2	22.7	25.1	3	1	20%	% prod. culms/veg. culms
10.	14.1	11.4	--	--	13.0	0.2	31.6	30.5	6	4	2%	
11.	14.1	11.3	--	--	0.7	0.2	11.2	13.2	3	1	30%	
12.	14.2	--	6.0	4.0	--	0.1	22.7	--	--	--	25%	
13.	14.2	--	--	--	7.0	0.1	25.5	--	--	--	25%	
14.	14.3	11.4	20.0	7.0	--	0.2	27.0	36.5	5	2	3%	
15.	14.2	11.3	--	--	8.0	0.2	15.5	27.0	6	3	5%	
16.	14.1	--	--	--	5.0	0.2	10.9	--	--	--	16%	
17.	14.1	--	--	--	2.0	0.2	12.4	--	--	--	4%	
18.	14.2	--	8.0	5.0	--	0.2	26.5	--	--	--	25%	
19.	14.3	--	--	--	2.5	0.2	15.5	--	--	--	6%	
20.	14.2	11.2	--	--	20.0	0.2	30.6	40.5	6	2	5%	

AGROPYRON SPICATUM

Study Area HorsecreekDate 20 July 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	CULMS	
1.	14.3	13.2	--	--	16.0	--	--	--	--	--	--	
2.	14.3	13.4	--	--	11.0	--	--	--	--	--	--	
3.	14.4	15.2	12.0	8.0	--	--	--	--	--	--	--	
4.	14.2	13.8	--	--	2.0	--	--	--	--	--	--	
5.	14.3	--	--	--	2.0	--	--	--	--	--	--	
6.	14.3	15.2	15.0	12.0	--	--	--	--	--	--	--	
7.	14.4	15.6	--	--	6.0	--	--	--	--	--	--	
8.	14.1	13.9	--	--	16.0	--	--	--	--	--	--	
9.	14.3	--	--	--	2.0	--	--	--	--	--	--	
10.	14.5	15.2	--	--	13.0	--	--	--	--	--	--	
11.	14.0	15.1	--	--	0.7	--	--	--	--	--	--	
12.	14.2	--	6.0	4.0	--	--	--	--	--	--	--	
13.	14.0	--	--	--	7.0	--	--	--	--	--	--	
14.	14.2	15.4	20.0	7.0	--	--	--	--	--	--	--	
15.	14.4	13.9	--	--	8.0	--	--	--	--	--	--	
16.	14.0	--	--	--	5.0	--	--	--	--	--	--	
17.	14.1	--	--	--	2.0	--	--	--	--	--	--	
18.	14.2	--	8.0	5.0	--	--	--	--	--	--	--	
19.	14.2	--	--	--	2.5	--	--	--	--	--	--	
20.	14.1	--	--	--	20.0	--	--	--	--	--	--	

ACROPYRON SPICATUM

Study Area Horsecreek

Date 11 August 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	CULMS	
1.	14.5	15.8	--	--	16.0	--	--	--	--	--	--	
2.	14.5	15.9	--	--	11.0	--	--	--	--	--	--	
3.	14.5	15.9	12.0	8.0	--	--	--	--	--	--	--	
4.	14.5	15.7	--	--	2.0	--	--	--	--	--	--	
5.	14.5	--	--	--	2.0	--	--	--	--	--	--	
6.	14.5	15.8	15.0	12.0	--	--	--	--	--	--	--	
7.	14.5	15.8	--	--	6.0	--	--	--	--	--	--	
8.	14.5	15.8	--	--	16.0	--	--	--	--	--	--	
9.	14.5	--	--	--	2.0	--	--	--	--	--	--	
10.	14.5	15.9	--	--	3.0	--	--	--	--	--	--	
11.	14.5	15.9	--	--	0.7	--	--	--	--	--	--	
12.	14.4	--	6.0	4.0	--	--	--	--	--	--	--	
13.	14.5	--	--	--	7.0	--	--	--	--	--	--	
14.	14.5	15.9	20.0	7.0	--	--	--	--	--	--	--	
15.	14.5	15.9	--	--	8.0	--	--	--	--	--	--	
16.	14.5	--	--	--	5.0	--	--	--	--	--	--	
17.	14.5	--	--	--	2.0	--	--	--	--	--	--	
18.	14.5	--	8.0	5.0	--	--	--	--	--	--	--	
19.	14.5	--	--	--	2.5	--	--	--	--	--	--	
20.	14.5	--	--	--	20.0	--	--	--	--	--	--	

AGROPYRON SPICATUM

Study Area Horsecreek

Date 17 September 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/	CULMS	CULMS	
			cm	cm	cm	cm	cm	cm	CULM			
1.	16.2	15.9	--	--	16.0	--	--	--	--	--	--	
2.	16.2	15.9	--	--	11.0	--	--	--	--	--	--	
3.	14.7	15.9	12.0	8.0	--	--	--	--	--	--	--	
4.	16.4	15.9	--	--	2.0	--	--	--	--	--	--	
5.	16.5	--	--	--	2.0	--	--	--	--	--	--	
6.	16.5	15.9	15.0	12.0	--	--	--	--	--	--	--	
7.	14.8	15.9	--	--	6.0	--	--	--	--	--	--	
8.	14.8	15.9	--	--	16.0	--	--	--	--	--	--	
9.	14.8	--	--	--	2.0	--	--	--	--	--	--	
10.	16.4	15.9	--	--	3.0	--	--	--	--	--	--	
11.	14.5	15.9	--	--	0.7	--	--	--	--	--	--	
12.	16.5	--	6.0	4.0	--	--	--	--	--	--	--	
13.	16.3	--	--	--	7.0	--	--	--	--	--	--	
14.	16.4	15.9	20.0	7.0	--	--	--	--	--	--	--	
15.	14.8	15.9	--	--	8.0	--	--	--	--	--	--	
16.	14.8	--	--	--	5.0	--	--	--	--	--	--	
17.	14.8	--	--	--	2.0	--	--	--	--	--	--	
18.	16.3	--	8.0	5.0	--	--	--	--	--	--	--	
19.	14.8	--	--	--	2.5	--	--	--	--	--	--	
20.	16.5	--	--	--	20.0	--	--	--	--	--	--	

AGROPYRON SPICATUM

Study Area Owl Draw

Date 17 April 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	CULMS	
1.	2.4	--	--	--	--	0.1	5.0	--	--	--	--	
2.	17.0	--	--	--	--	--	--	--	--	--	--	
3.	2.2	--	--	--	--	0.1	2.7	--	--	--	--	
4.	2.3	--	--	--	--	0.1	6.0	--	--	--	--	
5.	17.0	--	--	--	--	--	--	--	--	--	--	
6.	2.2	--	--	--	--	0.1	4.0	--	--	--	--	
7.	2.2	--	--	--	--	0.1	4.0	--	--	--	--	
8.	2.4	--	--	--	--	0.1	5.0	--	--	--	--	
9.	2.4	--	--	--	--	0.1	4.0	--	--	--	--	
10.	2.3	--	--	--	--	0.1	4.5	--	--	--	--	
11.	2.1	--	--	--	--	0.1	3.0	--	--	--	--	
12.	2.2	--	--	--	--	0.1	4.0	--	--	--	--	
13.	2.2	--	--	--	--	0.1	3.5	--	--	--	--	
14.	2.4	--	--	--	--	0.1	5.0	--	--	--	--	
15.	2.1	--	--	--	--	0.1	3.0	--	--	--	--	
16.	2.3	--	--	--	--	0.1	4.7	--	--	--	--	
17.	2.3	--	--	--	--	0.1	5.1	--	--	--	--	
18.	2.1	--	--	--	--	0.1	4.0	--	--	--	--	
19.	2.4	--	--	--	--	0.1	6.4	--	--	--	--	
20.	2.2	--	--	--	--	0.1	4.5	--	--	--	--	

AGROPYRON SPICATUM

Study Area Owl Draw

Date 16 May 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/ CULM	CULMS	CULMS	
			cm	cm	cm	cm	cm	cm				
1.	4.4	--	--	--	--	0.3	11.0	--	--	--	--	
2.	3.3	--	--	--	--	0.2	9.1	--	--	--	--	
3.	4.0	--	--	--	--	0.2	15.5	--	--	--	--	
4.	3.1	--	--	--	--	0.1	8.0	--	--	--	--	
5.	4.1	--	--	--	--	0.3	10.5	--	--	--	--	
6.	3.5	--	--	--	--	0.1	11.6	--	--	--	--	
7.	3.4	--	--	--	--	0.2	17.6	--	--	--	--	
8.	3.0	--	--	--	--	0.3	12.2	--	--	--	--	
9.	3.6	--	--	--	--	0.2	13.0	--	--	--	--	
10.	3.5	--	--	--	--	0.2	15.2	--	--	--	--	
11.	4.1	--	--	--	--	0.3	18.1	--	--	--	--	
12.	3.6	--	--	--	--	0.2	11.0	--	--	--	--	
13.	3.6	--	--	--	--	0.3	15.7	--	--	--	--	
14.	4.1	--	--	--	--	0.3	16.2	--	--	--	--	
15.	3.1	--	--	--	--	0.1	10.0	--	--	--	--	
16.	3.6	--	--	--	--	0.2	13.0	--	--	--	--	
17.	3.2	--	--	--	--	0.2	14.2	--	--	--	--	
18.	3.2	--	--	--	--	0.2	9.5	--	--	--	--	
19.	3.3	--	--	--	--	0.2	12.4	--	--	--	--	
20.	3.4	--	--	--	--	0.2	10.0	--	--	--	--	

AGROPYRON SPICATUM

Study Area Owl Draw

Date 2 July 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/ CULM	CULMS	CULMS	
1.	4.5	--	--	--	--	0.3	12.2	--	--	--	--	
2.	3.5	--	--	--	--	0.2	10.0	--	--	--	--	
3.	4.4	--	--	--	--	0.2	21.4	--	--	--	--	
4.	3.6	--	--	--	--	0.1	13.6	--	--	--	--	
5.	4.1	--	--	--	--	0.3	15.2	--	--	--	--	
6.	3.9	--	--	--	--	0.1	10.4	--	--	--	--	
7.	3.4	--	--	--	--	0.2	20.5	--	--	--	--	
8.	4.4	--	--	--	--	0.2	14.2	--	--	--	--	
9.	3.7	--	--	--	--	0.2	11.3	--	--	--	--	
10.	3.7	--	--	--	--	0.2	14.2	--	--	--	--	
11.	4.3	--	--	--	--	0.3	21.5	--	--	--	--	
12.	4.1	--	--	--	--	0.2	13.1	--	--	--	--	
13.	4.2	--	--	--	--	0.3	18.5	--	--	--	--	
14.	4.3	--	--	--	--	0.3	17.5	--	--	--	--	
15.	4.3	--	--	--	--	0.1	17.8	--	--	--	--	
16.	4.3	--	--	--	--	0.1	13.2	--	--	--	--	
17.	3.3	--	--	--	--	0.1	10.0	--	--	--	--	
18.	4.1	--	--	--	--	0.2	11.6	--	--	--	--	
19.	3.6	--	--	--	--	0.2	9.2	--	--	--	--	
20.	3.5	--	--	--	--	0.3	15.5	--	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGT	MAX SPIKE HGT	NOS SPIKE- LETS/ CULM	NOS REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	4.5	--	--	--	--	0.2	12.5	--	--	--	--	
2.	3.6	--	--	--	--	0.2	11.5	--	--	--	--	
3.	4.6	--	--	--	--	0.2	17.0	--	--	--	--	
4.	3.9	--	--	--	--	0.1	8.0	--	--	--	--	
5.	4.8	5.2	--	--	--	0.3	14.0	--	--	--	--	
6.	3.9	--	--	--	--	0.1	9.5	--	--	--	--	
7.	4.4	--	--	--	--	0.2	19.5	--	--	--	--	
8.	4.5	--	--	--	--	0.1	13.0	--	--	--	--	
9.	3.9	--	--	--	--	0.2	16.5	--	--	--	--	
10.	4.2	--	--	--	--	0.2	11.0	--	--	--	--	
11.	4.5	--	--	--	--	0.3	25.5	--	--	--	--	
12.	4.9	5.2	--	--	--	0.2	18.0	--	--	--	--	
13.	4.9	5.1	--	--	--	0.3	17.0	--	--	--	--	
14.	4.7	5.1	--	--	--	0.3	16.5	--	--	--	--	
15.	4.2	--	--	--	--	0.1	9.5	--	--	--	--	
16.	4.6	--	--	--	--	0.2	15.0	--	--	--	--	
17.	3.4	--	--	--	--	0.1	6.5	--	--	--	--	
18.	4.8	--	--	--	--	0.3	12.0	--	--	--	--	
19.	4.7	5.0	--	--	--	0.2	15.0	--	--	--	--	
20.	4.5	5.0	--	--	--	0.3	14.0	--	--	--	--	

AGROPYRON SPICATUM

Study Area

Owl Draw

Date 12 August 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/ CULM	CULMS	CULMS	
1.	4.7	--	--	--	--	0.2	13.0	--	--	--	--	
2.	4.5	--	--	--	--	0.2	13.0	--	--	--	--	
3.	4.8	--	--	--	--	0.2	7.1	--	--	--	--	
4.	14.5	--	--	--	--	0.1	8.0	--	--	--	--	
5.	4.8	--	--	--	--	0.2	19.5	--	--	--	--	
6.	3.9	--	--	--	--	0.1	17.0	--	--	--	--	(Repl.)
7.	4.5	--	--	--	--	0.2	22.0	--	--	--	--	
8.	4.4	--	--	--	--	0.1	14.5	--	--	--	--	
9.	4.8	--	--	--	--	0.2	18.8	--	--	--	--	
10.	4.9	--	--	--	--	0.2	11.0	--	--	--	--	
11.	4.9	--	--	--	--	0.3	21.6	--	--	--	--	
12.	4.9	--	--	--	--	0.2	18.5	--	--	--	--	
13.	4.9	--	--	--	--	0.3	15.5	--	--	--	--	
14.	14.1	--	--	--	--	0.2	16.6	--	--	--	--	
15.	4.7	--	--	--	--	0.1	6.5	--	--	--	--	
16.	4.5	--	--	--	--	0.1	13.5	--	--	--	--	
17.	3.9	--	--	--	--	0.1	17.0	--	--	--	--	
18.	4.9	--	--	--	--	0.2	11.0	--	--	--	--	
19.	4.9	--	--	--	--	0.2	17.0	--	--	--	--	
20.	4.9	--	--	--	--	0.3	16.0	--	--	--	--	

[illegible]

AGROPYRON SPICATUM

Study Area Owl Draw

Date 17 November 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE-	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	CULMS	
1.	17.0	--	--	--	--	--	--	--	--	--	--	
2.	17.0	--	--	--	--	--	--	--	--	--	--	
3.	17.0	--	--	--	--	--	--	--	--	--	--	
4.	17.0	--	--	--	--	--	--	--	--	--	--	
5.	17.0	--	--	--	--	--	--	--	--	--	--	
6.	17.0	--	--	--	--	--	--	--	--	--	--	
7.	17.0	--	--	--	--	--	--	--	--	--	--	
8.	17.0	--	--	--	--	--	--	--	--	--	--	
9.	17.0	--	--	--	--	--	--	--	--	--	--	
10.	17.0	--	--	--	--	--	--	--	--	--	--	
11.	17.0	--	--	--	--	--	--	--	--	--	--	
12.	17.0	--	--	--	--	--	--	--	--	--	--	
13.	17.0	--	--	--	--	--	--	--	--	--	--	
14.	17.0	--	--	--	--	--	--	--	--	--	--	
15.	17.0	--	--	--	--	--	--	--	--	--	--	
16.	17.0	--	--	--	--	--	--	--	--	--	--	
17.	17.0	--	--	--	--	--	--	--	--	--	--	
18.	17.0	--	--	--	--	--	--	--	--	--	--	
19.	17.0	--	--	--	--	--	--	--	--	--	--	
20.	17.0	--	--	--	--	--	--	--	--	--	--	

AGROPYRON SPICATUM

Study Area Red Wash #2

Date 19 May 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/ CULM	CULMS	CULMS	
			cm	cm	cm	cm	cm	cm				
1.	3.4	--	--	--	8.0	0.1	10.0	--	--	--	--	
2.	2.6	--	--	--	3.0	0.1	11.5	--	--	--	--	
3.	3.1	--	--	--	58.0	0.3	6.0	--	--	--	--	
4.	2.3	--	--	--	15.0	0.1	15.6	--	--	--	--	
5.	2.6	--	--	--	34.0	0.3	18.5	--	--	--	--	
6.	2.7	--	--	--	5.0	0.2	12.0	--	--	--	--	
7.	3.3	--	--	--	5.0	0.2	4.6	--	--	--	--	
8.	2.2	--	--	--	4.0	0.3	17.4	--	--	--	--	
9.	3.2	--	--	--	42.0	0.2	11.7	--	--	--	--	
10.	4.1	--	--	--	4.0	0.2	9.4	--	--	--	--	
11.	3.1	--	--	--	5.0	0.2	12.6	--	--	--	--	
12.	3.3	--	--	--	17.0	0.2	15.2	--	--	--	--	
13.	3.1	--	--	--	12.0	0.1	12.4	--	--	--	--	
14.	2.5	--	--	--	4.0	0.1	8.0	--	--	--	--	
15.	3.2	--	--	--	5.0	0.2	9.7	--	--	--	--	
16.	3.2	--	--	--	2.0	0.2	9.4	--	--	--	--	
17.	3.2	--	--	--	14.0	0.2	15.2	--	--	--	--	
18.	3.1	--	--	--	.5	0.1	9.0	--	--	--	--	
19.	2.5	--	--	--	10.0	0.1	10.0	--	--	--	--	
20.	2.4	--	--	--	.5	0.1	12.7	--	--	--	--	

AGROPYRON SPICATUM

Study Area Red Wash #2

Date 6 June 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE-	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HGHT	HGHT	LETS/	CULMS	CULMS	
			cm	cm	cm	cm	cm	cm	CULM			
1.	3.6	---	---	---	8.0	0.2	11.0	---	---	---	---	
2.	3.6	---	---	---	3.0	0.3	11.5	---	---	---	---	
3.	3.4	---	---	---	58.0	0.1	6.0	---	---	---	---	
4.	3.2	---	---	---	15.0	0.2	4.5	---	---	---	---	
5.	2.9	---	---	---	34.0	0.2	18.5	---	---	---	---	
6.	3.7	---	---	---	5.0	0.3	13.0	---	---	---	---	
7.	3.3	---	---	---	5.0	0.2	8.4	---	---	---	---	
8.	2.7	---	---	---	4.0	0.2	20.2	---	---	---	---	
9.	3.3	---	---	---	42.0	0.2	9.2	---	---	---	---	
10.	4.1	---	---	---	4.0	0.3	13.2	---	---	---	---	
11.	3.5	---	---	---	5.0	0.2	10.6	---	---	---	---	
12.	3.5	---	---	---	17.0	0.2	15.3	---	---	---	---	
13.	3.7	---	---	---	12.0	0.1	9.1	---	---	---	---	
14.	2.5	---	---	---	4.0	0.1	5.6	---	---	---	---	
15.	3.3	---	---	---	5.0	0.3	10.1	---	---	---	---	
16.	3.2	---	---	---	2.0	0.3	12.2	---	---	---	---	
17.	3.3	---	---	---	14.0	0.4	22.7	---	---	---	---	
18.	3.7	---	---	---	0.5	0.2	12.2	---	---	---	---	
19.	2.4	---	---	---	10.0	0.1	9.2	---	---	---	---	
20.	2.8	---	---	---	0.5	0.2	11.0	---	---	---	---	

AGROPYRON SPICATUM

Study Area Red Wash #2

Date 27 June 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	VEG CULMS	
1.	3.7	--	--	--	8.0	0.1	12.3	--	--	--	--	
2.	3.6	--	--	--	3.0	0.1	17.6	--	--	--	--	
3.	3.7	--	--	--	58.0	0.1	17.8	--	--	--	--	
4.	3.9	--	--	--	15.0	0.1	5.2	--	--	--	--	
5.	2.9	--	--	--	34.0	0.1	22.1	--	--	--	--	
6.	3.6	--	--	--	5.0	0.2	16.1	--	--	--	--	
7.	3.5	--	--	--	5.0	0.1	9.5	--	--	--	--	
8.	3.4	--	--	--	4.0	0.2	18.4	--	--	--	--	(Lower leaves
9.	3.5	--	--	--	42.0	0.2	23.1	--	--	--	--	Browning)
10.	4.2	--	--	--	4.0	0.1	8.0	--	--	--	--	
11.	3.8	--	--	--	5.0	0.1	14.5	--	--	--	--	
12.	3.9	--	--	--	17.0	0.1	16.0	--	--	--	--	
13.	3.3	--	--	--	12.0	0.1	10.1	--	--	--	--	
14.	2.9	--	--	--	4.0	0.1	9.5	--	--	--	--	
15.	3.9	--	--	--	5.0	0.1	13.0	--	--	--	--	
16.	3.4	--	--	--	2.0	0.1	8.0	--	--	--	--	
17.	3.9	--	--	--	14.0	0.2	22.8	--	--	--	--	
18.	3.8	--	--	--	0.5	0.1	7.8	--	--	--	--	
19.	2.9	--	--	--	10.0	0.1	10.1	--	--	--	--	
20.	3.8	--	--	--	0.5	0.1	16.6	--	--	--	--	

ACROPYRON SPICATUM

Study Area Red Wash #2

Date 19 July 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGT	MAX SPIKE HGT	NOS SPIKE-LETS/CULM	NOS REPR-CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	4.5	--	--	--	8.0	0.2	15.4	--	--	--	--	
2.	3.9	--	--	--	3.0	0.2	15.5	--	--	--	--	
3.	3.9	--	--	--	58.0	0.1	17.1	--	--	--	--	
4.	4.9	--	--	--	15.0	0.2	23.0	--	--	--	--	
5.	3.9	--	--	--	34.0	0.2	24.0	--	--	--	--	
6.	4.4	--	--	--	5.0	0.1	16.1	--	--	--	--	
7.	3.5	--	--	--	5.0	0.1	12.6	--	--	--	--	
8.	4.8	--	--	--	4.0	0.1	18.5	--	--	--	--	
9.	3.7	--	--	--	42.0	0.1	26.0	--	--	--	--	
10.	3.4	--	--	--	4.0	0.1	8.8	--	--	--	--	
11.	3.8	--	--	--	5.0	0.1	15.2	--	--	--	--	
12.	3.8	--	--	--	17.0	0.1	16.2	--	--	--	--	
13.	3.9	--	--	--	12.0	0.1	17.0	--	--	--	--	
14.	2.8	--	--	--	4.0	0.1	9.5	--	--	--	--	
15.	4.8	--	--	--	5.0	0.2	21.0	--	--	--	--	
16.	3.6	--	--	--	2.0	0.1	10.2	--	--	--	--	
17.	4.4	--	--	--	14.0	0.1	22.9	--	--	--	--	
18.	3.9	--	--	--	0.5	0.1	11.5	--	--	--	--	
19.	14.2	--	--	--	10.0	0.1	16.5	--	--	--	--	
20.	14.2	--	--	--	0.5	0.1	15.0	--	--	--	--	

AGROPYRON SPICATUM

Study Area Red Wash #2

Date 15 August 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH	WIDTH	DIAM	WIDTH	HCHT	HCHT	LETS/	CULMS	CULMS	
			cm	cm	cm	cm	cm	cm	CULM			
1.	4.5	--	--	--	8.0	0.1	18.0	--	--	--	--	
2.	4.6	--	--	--	3.0	0.1	18.2	--	--	--	--	
3.	4.3	--	--	--	58.0	0.1	15.0	--	--	--	--	
4.	16.3	--	--	--	15.0	0.2	15.0	--	--	--	--	
5.	4.5	--	--	--	34.0	0.1	21.0	--	--	--	--	
6.	4.3	--	--	--	5.0	0.1	12.0	--	--	--	--	
7.	3.6	--	--	--	5.0	0.1	9.0	--	--	--	--	
8.	16.3	--	--	--	4.0	0.1	15.0	--	--	--	--	
9.	16.2	--	--	--	42.0	0.1	25.0	--	--	--	--	
10.	3.6	--	--	--	4.0	0.2	9.0	--	--	--	--	
11.	4.0	--	--	--	5.0	0.1	--	--	--	--	--	(Damaged)
12.	16.2	--	--	--	17.0	0.1	15.0	--	--	--	--	
13.	4.1	--	--	--	12.0	0.1	15.0	--	--	--	--	
14.	16.3	--	--	--	4.0	0.1	10.0	--	--	--	--	
15.	4.7	--	--	--	5.0	0.1	17.5	--	--	--	--	
16.	16.2	--	--	--	2.0	0.2	8.0	--	--	--	--	
17.	4.5	--	--	--	14.0	0.1	18.0	--	--	--	--	
18.	16.2	--	--	--	0.5	0.1	16.0	--	--	--	--	
19.	16.2	--	--	--	10.0	0.1	9.5	--	--	--	--	
20.	16.1	--	--	--	0.5	0.1	16.0	--	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF	MAX LEAF	MAX SPIKE	NOS SPIKE	NOS REPR	NOS VEG	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	WIDTH cm	HGHT cm	HGHT cm	LETS/ CULM	CULMS	CULMS	
1.	4.4	--	--	--	8.0	0.2	17.2	--	--	--	--	
2.	4.8	--	--	--	3.0	0.2	19.0	--	--	--	--	
3.	4.4	--	--	--	58.0	0.2	11.5	--	--	--	--	
4.	16.3	--	--	--	15.0	0.1	7.5	--	--	--	--	
5.	4.5	--	--	--	34.0	0.2	8.5	--	--	--	--	
6.	4.4	--	--	--	5.0	0.3	12.5	--	--	--	--	
7.	16.3	--	--	--	5.0	0.2	9.6	--	--	--	--	
8.	16.3	--	--	--	4.0	0.1	11.2	--	--	--	--	
9.	16.4	--	--	--	42.0	0.2	15.0	--	--	--	--	
10.	4.5	--	--	--	4.0	0.2	4.0	--	--	--	--	
11.	4.4	--	--	--	5.0	0.2	7.1	--	--	--	--	
12.	16.2	--	--	--	17.0	0.3	17.2	--	--	--	--	
13.	4.3	--	--	--	12.0	0.2	14.0	--	--	--	--	
14.	16.3	--	--	--	4.0	0.2	17.2	--	--	--	--	
15.	4.8	--	--	--	5.0	0.2	10.5	--	--	--	--	
16.	16.3	--	--	--	2.0	0.2	21.5	--	--	--	--	
17.	4.7	--	--	--	14.0	0.2	15.7	--	--	--	--	
18.	16.3	--	--	--	0.5	0.2	17.5	--	--	--	--	
19.	16.3	--	--	--	10.0	0.1	17.5	--	--	--	--	
20.	16.2	--	--	--	0.5	0.1	12.0	--	--	--	--	

AGROPYRON SPICATUMStudy Area Red Wash #2Date 4 November 1977

PLANT NO.	PHENO. STAGE SCORE		CLUMP			MAX LEAF WIDTH	MAX LEAF HGHT	MAX SPIKE HGHT	NOS SPIKE- LETS/ CULM	NOS REPR CULMS	NOS VEG CULMS	MATURITY
	VEG	REPR	LGTH cm	WIDTH cm	DIAM cm	cm	cm	cm				
1.	17.0	--	--	--	--	--	--	--	--	--	--	
2.	16.9	--	--	--	--	--	--	--	--	--	--	
3.	16.9	--	--	--	--	--	--	--	--	--	--	
4.	16.9	--	--	--	--	--	--	--	--	--	--	
5.	16.9	--	--	--	--	--	--	--	--	--	--	
6.	17.0	--	--	--	--	--	--	--	--	--	--	
7.	17.0	--	--	--	--	--	--	--	--	--	--	
8.	16.9	--	--	--	--	--	--	--	--	--	--	
9.	16.9	--	--	--	--	--	--	--	--	--	--	
10.	17.0	--	--	--	--	--	--	--	--	--	--	
11.	16.9	--	--	--	--	--	--	--	--	--	--	
12.	16.9	--	--	--	--	--	--	--	--	--	--	
13.	16.8	--	--	--	--	--	--	--	--	--	--	
14.	16.9	--	--	--	--	--	--	--	--	--	--	
15.	17.0	--	--	--	--	--	--	--	--	--	--	
16.	16.9	--	--	--	--	--	--	--	--	--	--	
17.	16.9	--	--	--	--	--	--	--	--	--	--	
18.	16.9	--	--	--	--	--	--	--	--	--	--	
19.	17.0	--	--	--	--	--	--	--	--	--	--	
20.	17.0	--	--	--	--	--	--	--	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	2.1	---	---	---	---	---	---	---	---	---	
2.	2.4	---	---	---	---	---	---	---	---	---	
3.	2.4	---	---	---	---	---	---	---	---	---	
4.	1.6	---	---	---	---	---	---	---	---	---	
5.	1.2	---	---	---	---	---	---	---	---	---	
6.	1.9	---	---	---	---	---	---	---	---	---	
7.	1.4	---	---	---	---	---	---	---	---	---	
8.	2.2	---	---	---	---	---	---	---	---	---	
9.	2.3	---	---	---	---	---	---	---	---	---	
10.	1.4	---	---	---	---	---	---	---	---	---	
11.	1.6	---	---	---	---	---	---	---	---	---	
12.	2.0	---	---	---	---	---	---	---	---	---	
13.	2.1	---	---	---	---	---	---	---	---	---	
14.	1.9	---	---	---	---	---	---	---	---	---	
15.	2.3	---	---	---	---	---	---	---	---	---	
16.	2.1	---	---	---	---	---	---	---	---	---	
17.	2.2	---	---	---	---	---	---	---	---	---	
18.	2.0	---	---	---	---	---	---	---	---	---	
19.	1.7	---	---	---	---	---	---	---	---	---	
20.	1.7	---	---	---	---	---	---	---	---	---	

ARTEMISIA NOVA

Study Area HorsecreekDate 17 May 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm
	VEG.	REPR.								
1.	3.1	--	26.0	--	--	54.0	4	45.0	--	--
2.	3.1	--	9.0	--	--	12.0	1	0.0	--	--
3.	3.4	--	15.3	--	--	17.0	1	4.0	--	--
4.	3.2	--	30.0	--	--	43.0	4	5.0	--	--
5.	3.2	--	17.0	--	--	32.0	3	5.0	--	--
6.	3.3	--	24.0	--	--	31.0	4	22.0	--	--
7.	3.2	--	37.0	--	--	38.0	4	12.0	--	--
8.	3.2	--	9.0	--	--	26.0	3	15.0	--	--
9.	3.3	--	17.0	--	--	34.0	4	20.0	--	--
10.	3.1	--	8.0	--	--	42.0	5	95.0	--	--
11.	3.2	--	50.0	--	--	67.0	4	8.0	--	--
12.	3.0	--	14.0	--	--	36.0	4	20.0	--	--
13.	3.2	--	45.0	--	--	60.0	4	20.0	--	--
14.	3.4	--	18.0	--	--	25.0	2	0.0	--	--
15.	3.1	--	23.0	--	--	30.0	3	50.0	--	--
16.	3.0	--	26.0	--	--	23.0	3	2.0	--	--
17.	2.3	--	10.0	--	--	10.0	1	0.0	--	--
18.	3.1	--	21.0	--	--	22.0	2	5.0	--	--
19.	3.1	--	28.0	--	--	30.0	3	0.0	--	--
20.	3.1	--	4.0	--	--	10.0	1	0.0	--	--

ARTEMISIA NOVA

Study Area HorsecreekDate 9 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH.	NEW SEED STALK LNTH.
	VEG.	REPR.								
1.	3.2	5.3	26.0	--	--	64.0	4	45	--	9.0
2.	3.2	--	9.0	--	--	12.0	1	0	--	--
3.	3.5	5.3	15.3	--	--	17.0	1	4	--	9.0
4.	3.4	5.3	30.0	--	--	43.0	4	5	--	7.0
5.	3.3	5.3	17.0	--	--	32.0	3	5	--	7.0
6.	3.4	5.4	24.0	--	--	31.0	4	22	--	10.7
7.	3.3	5.2	37.0	--	--	38.0	4	12	--	4.5
8.	3.2	5.2	9.0	--	--	26.0	3	15	--	12.2
9.	3.5	5.3	17.0	--	--	34.0	4	20	--	7.5
10.	3.4	5.1	8.0	--	--	42.0	5	95	--	5.7
11.	3.4	5.2	50.0	--	--	67.0	4	8	--	7.5
12.	3.3	5.0	14.0	--	--	36.0	4	20	--	2.6
13.	3.3	5.0	45.0	--	--	60.0	4	20	--	1.7
14.	3.5	5.1	18.0	--	--	25.0	2	0	--	10.1
15.	3.1	5.1	23.0	--	--	30.0	3	50	--	7.6
16.	3.1	5.1	26.0	--	--	23.0	3	2	--	8.5
17.	3.2	5.1	10.0	--	--	10.0	1	0	--	5.0
18.	3.1	5.0	21.0	--	--	22.0	2	5	--	--
19.	3.1	5.1	28.0	--	--	30.0	3	0	--	4.4
20.	3.1	--	4.0	--	--	10.0	1	0	--	--

ARTEMISIA NOVA

Study Area Horse Creek

Date 30 June 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	STAGE	SCORE									
	VEG.	REPR.	cm	cm	cm	cm					
1.	3.2	5.3	26.0	--	--	64.0	4	45	--	7.4	
2.	3.2	--	9.0	--	--	12.0	1	0	--	--	
3.	3.4	5.4	15.3	--	--	17.0	1	4	--	9.2	
4.	3.3	5.3	30.0	--	--	43.0	4	5	--	8.2	
5.	3.3	5.5	17.0	--	--	32.0	3	5	--	7.2	
6.	3.4	5.6	24.0	--	--	31.0	4	22	--	9.1	
7.	3.4	5.2	37.0	--	--	38.0	4	12	--	7.0	
8.	3.3	5.3	9.0	--	--	26.0	3	15	--	11.5	
9.	3.4	5.3	17.0	--	--	34.0	4	20	--	7.8	
10.	3.3	5.2	8.0	--	--	42.0	5	95	--	6.0	
11.	3.5	5.3	50.0	--	--	67.0	4	8	--	9.0	
12.	3.5	5.2	14.0	--	--	36.0	4	20	--	7.2	
13.	3.5	5.1	45.0	--	--	60.0	4	20	--	4.4	(Dying)
14.	3.5	5.2	18.0	--	--	25.0	2	0	--	10.2	
15.	3.5	5.2	23.0	--	--	30.0	3	50	--	9.2	
16.	3.4	5.4	26.0	--	--	23.0	3	2	--	7.0	
17.	3.4	5.1	10.0	--	--	10.0	1	0	--	7.6	
18.	3.2	5.1	21.0	--	--	22.0	2	5	--	5.4	
19.	3.2	5.3	28.0	--	--	30.0	3	0	--	4.4	
20.	3.3	--	4.0	--	--	10.0	1	0	--	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.7	5.6	26.0	--	--	64.0	4	45	--	14.5	
2.	3.6	--	9.0	--	--	12.0	1	0	--	--	
3.	3.7	5.7	15.3	--	--	17.0	1	4	--	11.0	
4.	3.6	5.7	30.0	--	--	43.0	4	5	--	8.0	
5.	3.8	5.6	17.0	--	--	32.0	3	5	--	8.0	
6.	3.7	5.7	24.0	--	--	31.0	4	22	--	7.5	
7.	3.6	5.6	37.0	--	--	28.0	4	12	--	9.0	
8.	3.7	5.6	9.0	--	--	26.0	3	15	--	13.0	
9.	3.6	5.6	17.0	--	--	34.0	4	20	--	7.5	
10.	3.7	5.3	8.0	--	--	42.0	5	95	--	6.0	
11.	3.7	5.7	50.0	--	--	67.0	4	8	--	8.0	
12.	3.6	5.6	14.0	--	--	36.0	4	20	--	8.5	
13.	3.7	5.6	45.0	--	--	60.0	4	20	--	9.5	
14.	3.7	5.5	18.0	--	--	25.0	2	0	--	15.0	
15.	3.6	5.7	23.0	--	--	30.0	3	50	--	10.0	
16.	3.7	5.7	26.0	--	--	23.0	3	2	--	8.0	
17.	3.7	5.7	10.0	--	--	10.0	1	0	--	7.0	
18.	3.6	5.7	21.0	--	--	22.0	2	5	--	8.5	
19.	3.6	5.6	28.0	--	--	30.0	3	0	--	5.5	
20.	3.7	--	4.0	--	--	10.0	1	0	--	--	

ARTEMISIA NOVA

Study Area Horse Creek

Date 11 August 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	STAGE	SCORE									
	VEG.	REPR.	cm	cm	cm	cm					
1.	3.7	5.7	26.0	--	--	64.0	4	45	--	8.0	
2.	3.7	--	9.0	--	--	12.0	1	0	--	--	
3.	3.7	5.8	15.3	--	--	17.0	1	4	--	9.5	
4.	3.7	5.8	30.0	--	--	43.0	4	5	--	8.0	
5.	3.5	5.8	17.0	--	--	32.0	3	5	--	10.0	
6.	3.8	5.8	24.0	--	--	31.0	4	22	--	10.0	
7.	3.8	5.6	37.0	--	--	38.0	4	12	--	8.0	
8.	3.8	5.8	9.0	--	--	26.0	3	15	--	9.2	
9.	3.8	5.8	17.0	--	--	34.0	4	20	--	8.3	
10.	3.8	--	8	--	--	42.0	5	95	--	10.2	(Dead)
11.	3.9	5.8	50.0	--	--	67.0	4	8	--	13.0	
12.	3.8	5.7	14.0	--	--	36.0	4	20	--	4.0	
13.	3.9	5.8	45.0	--	--	60.0	4	20	--	7.6	
14.	3.9	5.8	18.0	--	--	25.0	2	0	--	14.1	
15.	3.9	5.9	23.0	--	--	30.0	3	50	--	9.7	
16.	3.9	5.8	26.0	--	--	23.0	3	2	--	8.4	
17.	3.8	5.8	10.0	--	--	10.0	1	0	--	7.0	
18.	3.8	5.8	21.0	--	--	22.0	2	5	--	7.9	
19.	3.8	5.7	28.0	--	--	30.0	3	0	--	6.6	
20.	3.8	--	4.0	--	--	10.0	1	0	--	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm
	VEG.	REPR.								
1.	4.6	11.2	23.0	--	--	23.0	3	20.0	0.5	11.1
2.	4.7	--	10.0	--	--	13.0	2	0.0	0.4	--
3.	4.7	11.0	13.0	20.0	10.0	--	2	0.0	0.4	10.2
4.	4.6	11.5	16.0	--	--	36.0	3	5.0	0.5	9.7
5.	4.3	10.8	16.0	--	--	26.0	3	5.0	0.3	6.7
6.	4.7	11.1	22.0	30.0	17.0	--	3	5.0	0.3	11.3
7.	4.6	10.5	17.0	--	--	43.0	5	70.0	0.4	7.6
8.	4.6	10.4	7.0	--	--	24.0	2	15.0	0.2	11.4
9.	4.6	10.6	20.0	--	--	30.0	3	45.0	0.3	7.5
10.	4.7	--	15.0	--	--	34.0	3	90.0	0.3	--
11.	4.5	10.5	48.0	--	--	54.0	5	4.0	0.9	11.6
12.	4.6	10.4	18.0	--	--	42.0	3	30.0	0.2	4.6
13.	4.6	11.2	40.0	--	--	50.0	3	45.0	0.8	10.2
14.	4.5	11.3	18.0	--	--	16.0	2	0.0	0.5	11.4
15.	4.6	10.7	20.0	--	--	23.0	3	25.0	0.6	9.0
16.	4.6	10.6	19.0	--	--	27.0	3	5.0	0.2	8.1
17.	4.6	10.8	12.0	23.0	10.0	--	2	35.0	0.8	7.2
18.	4.8	11.4	23.0	--	--	25.0	3	20.0	0.7	13.6
19.	4.6	11.0	22.0	--	--	23.0	3	3.0	0.2	4.2
20.	4.6	--	5.0	--	--	9.0	2	0.0	0.5	--

ARTEMISIA NOVA

Study Area Owl Draw

Date 17 April 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HIGHT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	17.0	--	7.0	--	--	--	--	--	--	--	
2.	0.3	--	12.0	--	--	--	--	--	--	--	
3.	17.0	--	9.5	--	--	--	--	--	--	--	
4.	17.0	--	8.5	--	--	--	--	--	--	--	
5.	17.0	--	8.5	--	--	--	--	--	--	--	
6.	17.0	--	10.0	--	--	--	--	--	--	--	
7.	17.0	--	13.0	--	--	--	--	--	--	--	
8.	17.0	--	10.0	--	--	--	--	--	--	--	
9.	17.0	--	12.0	--	--	--	--	--	--	--	
10.	17.0	--	8.5	--	--	--	--	--	--	--	
11.	17.0	--	9.5	--	--	--	--	--	--	--	
12.	17.0	--	7.0	--	--	--	--	--	--	--	
13.	17.0	--	11.5	--	--	--	--	--	--	--	
14.	17.0	--	9.0	--	--	--	--	--	--	--	
15.	17.0	--	12.0	--	--	--	--	--	--	--	
16.	17.0	--	5.0	--	--	--	--	--	--	--	
17.	17.0	--	10.0	--	--	--	--	--	--	--	
18.	17.0	--	13.0	--	--	--	--	--	--	--	
19.	17.0	--	8.0	--	--	--	--	--	--	--	
20.	17.0	--	4.5	--	--	--	--	--	--	--	

ARTEMISIA NOVA

Study Area Owl Creek

Date 16 May 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	2.6	--	8.0	--	--	8.0	2	10	--	--	
2.	2.5	--	11.0	--	--	13.0	2	5	--	--	
3.	2.6	--	9.5	--	--	11.0	2	5	--	--	
4.	2.5	--	7.0	--	--	20.0	4	20	--	--	
5.	2.7	--	7.0	--	--	13.0	3	10	--	--	
6.	2.5	--	10.0	--	--	16.0	5	40	--	--	
7.	2.6	--	11.0	--	--	17.0	4	10	--	--	
8.	2.7	--	11.0	--	--	14.0	3	5	--	--	
9.	2.6	--	10.0	--	--	18.0	5	30	--	--	
10.	2.6	--	8.0	--	--	10.0	5	80	--	--	
11.	2.7	--	7.0	--	--	8.0	5	50	--	--	
12.	2.5	--	6.0	--	--	16.0	4	25	--	--	
13.	2.6	--	13.0	--	--	6.0	4	40	--	--	
14.	2.4	--	9.0	--	--	18.0	5	65	--	--	
15.	2.6	--	12.0	--	--	35.0	4	10	--	--	
16.	2.4	--	6.0	--	--	13.0	5	55	--	--	
17.	2.6	--	10.0	--	--	23.0	4	10	--	--	
18.	2.7	--	16.0	--	--	33.0	4	15	--	--	
19.	2.6	--	9.0	--	--	17.0	4	5	--	--	
20.	2.7	--	5.0	--	--	5.0	2	0	--	--	

ARTEMISIA NOVA

Study Area Owl Draw

Date 2 July 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	(Lvs. drying)
	STAGE	SCORE									
	VEG.	REPR.	cm	cm	cm	cm					
1.	3.8	--	8.0	--	--	8.0	2	10	--	--	
2.	3.7	--	11.0	--	--	13.0	2	5	--	--	
3.	3.8	--	9.5	--	--	11.0	2	5	--	--	
4.	3.7	--	7.0	--	--	20.0	4	20	--	--	
5.	3.6	--	7.0	--	--	13.0	3	10	--	--	
6.	3.7	--	10.0	--	--	16.0	5	40	--	--	
7.	3.7	6.2	11.0	--	--	17.0	4	10	--	3.0	
8.	3.7	6.2	11.0	--	--	14.0	3	5	--	3.5	
9.	3.8	6.3	10.0	--	--	18.0	5	30	--	7.5	
10.	3.7	--	8.0	--	--	10.0	5	80	--	--	
11.	3.8	--	7.0	--	--	8.0	5	50	--	--	
12.	3.7	--	6.0	--	--	16.0	4	25	--	--	
13.	3.7	--	13.0	--	--	6.0	4	40	--	--	
14.	3.7	6.3	9.0	--	--	18.0	5	65	--	3.5	
15.	3.7	6.2	12.0	--	--	35.0	4	10	--	12.5	
16.	3.6	6.3	6.0	--	--	13.0	5	55	--	6.5	
17.	3.8	6.2	10.0	--	--	23.0	4	10	--	7.0	
18.	3.7	--	16.0	--	--	53.0	4	15	--	--	
19.	3.7	6.3	9.0	--	--	17.0	4	5	--	6.0	
20.	3.7	--	5.0	--	--	5.0	2	0	--	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LGTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH. cm
	VEG.	REPR.								
1.	3.4	--	8.0	--	--	8.0	2	10	--	0
2.	3.5	--	11.0	--	--	13.0	2	5	--	0
3.	3.5	--	9.5	--	--	11.0	2	5	--	--
4.	3.4	--	7.0	--	--	20.0	4	20	--	--
5.	3.4	--	7.0	--	--	13.0	3	10	--	--
6.	3.5	--	10.0	--	--	16.0	5	40	--	--
7.	3.5	5.5	11.0	--	--	17.0	4	10	--	3.5
8.	3.5	5.3	11.0	--	--	14.0	3	5	--	5.5
9.	3.4	5.6	10.0	--	--	18.0	5	30	--	8.5
10.	3.4	--	8.0	--	--	10.0	5	80	--	--
11.	3.6	--	7.0	--	--	8.0	5	50	--	--
12.	3.5	--	6.0	--	--	16.0	4	25	--	--
13.	3.5	--	13.0	--	--	6.0	4	40	--	--
14.	3.5	5.3	9.0	--	--	18.0	5	65	--	3.5
15.	3.6	5.7	12.0	--	--	35.0	4	10	--	12.0
16.	3.5	5.6	6.0	--	--	13.0	5	55	--	6.0
17.	3.6	5.6	10.0	--	--	23.0	4	10	--	6.0
18.	3.6	--	16.0	--	--	53.0	4	15	--	--
19.	3.5	5.5	9.0	--	--	17.0	4	5	--	7.5
20.	3.6	--	5.0	--	--	5.0	2	0	--	--

ARTEMISIA NOVA

Study Area Owl Draw

Date 12 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HCHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.6	--	8.0	--	--	8.0	2	10	--	--	
2.	3.5	--	11.0	--	--	13.0	2	5	--	--	
3.	3.6	--	9.5	--	--	11.0	2	5	--	--	
4.	3.7	--	7.0	--	--	20.0	4	20	--	--	
5.	3.7	--	7.0	--	--	13.0	3	10	--	--	
6.	3.6	--	10.0	--	--	16.0	5	40	--	--	
7.	3.7	5.5	11.0	--	--	17.0	4	10	--	4.6	
8.	3.8	5.5	11.0	--	--	14.0	3	5	--	4.5	
9.	3.8	5.6	10.0	--	--	18.0	5	30	--	8.6	
10.	3.7	--	8.0	--	--	10.0	5	80	--	--	
11.	3.6	--	7.0	--	--	8.0	5	50	--	--	
12.	3.5	--	6.0	--	--	16.0	4	25	--	--	
13.	3.7	--	13.0	--	--	6.0	4	40	--	--	
14.	3.6	5.4	9.0	--	--	18.0	5	65	--	3.7	
15.	3.8	5.6	12.0	--	--	35.0	4	10	--	13.0	
16.	3.7	5.6	6.0	--	--	13.0	5	55	--	5.5	
17.	3.7	5.7	10.0	--	--	23.0	4	10	--	6.5	
18.	3.7	--	16.0	--	--	53.0	4	15	--	--	
19.	3.7	5.7	9.0	--	--	17.0	4	5	--	7.2	
20.	3.6	--	5.0	--	--	5.0	2	0	--	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	(Repr. no success)
	VEG.	REPR.									
1.	4.6	--	8.0	--	--	9.0	2	5	0.2	--	
2.	4.5	--	14.0	--	--	12.0	3	5	0.3	--	
3.	4.6	--	13.0	17.0	8.0	--	2	10	0.3	--	
4.	4.4	--	12.0	28.0	20.0	--	3	25	0.5	--	
5.	4.5	--	8.0	15.0	9.0	--	2	0	0.4	--	
6.	4.6	--	12.0	33.0	14.0	--	3	20	0.5	--	
7.	4.6	10.3	15.0	--	--	20.0	3	10	0.2	3.5	
8.	4.5	9.7	10.0	21.0	13.0	--	2	5	0.2	4.5	
9.	4.5	9.9	10.0	22.0	16.0	--	3	15	0.3	8.5	
10.	4.4	--	10.0	--	--	10.0	5	50	0.4	--	
11.	4.6	--	7.0	47.0	14.0	--	5	70	0.3	--	
12.	4.5	--	10.0	27.0	19.0	--	3	5	0.2	--	
13.	4.6	--	13.0	--	--	10.0	3	40	0.2	--	
14.	4.5	10.3	9.0	--	--	24.0	4	35	0.1	3.8	
15.	4.6	9.8	11.0	--	--	46.0	4	5	0.2	12.0	
16.	4.6	10.2	6.0	30.0	14.0	--	5	60	0.2	6.0	
17.	4.5	10.4	10.0	28.0	23.0	--	3	5	0.3	7.0	
18.	4.7	--	14.0	--	--	38.0	4	15	0.3	--	
19.	4.6	9.9	12.0	26.0	16.0	--	3	20	0.2	7.0	
20.	4.7	--	4.5	--	--	6.0	2	5	0.2	--	

ARTEMISIA NOVA

Study Area Owl Draw

Date 17 November 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH. cm	
	STAGE	SCORE									
	VEG.	REPR.	cm	cm	cm	cm					
1.	14.3	--	8.0	--	--	9.0	2	5	--	--	
2.	14.3	--	14.0	--	--	12.0	3	5	--	--	
3.	14.2	--	13.0	17.0	8.0	--	2	10	--	--	
4.	14.3	--	12.0	28.0	20.0	--	3	25	--	--	
5.	14.4	--	8.0	15.0	9.0	--	2	0	--	--	
6.	14.4	--	12.0	33.0	14.0	--	3	20	--	--	
7.	14.3	15.5	15.0	--	--	20.0	3	10	--	--	
8.	14.3	13.8	10.0	21.0	13.0	--	2	5	--	--	
9.	14.3	13.9	10.0	22.0	16.0	--	3	15	--	--	
10.	14.3	--	10.0	--	--	10.0	5	50	--	--	
11.	14.2	--	7.0	47.0	14.0	--	5	70	--	--	
12.	14.4	--	10.0	27.0	19.0	--	3	5	--	--	
13.	14.3	--	13.0	--	--	10.0	3	40	--	--	
14.	14.3	13.9	9.0	--	--	24.0	4	35	--	--	
15.	14.4	15.1	11.0	--	--	46.0	4	5	--	--	
16.	14.3	15.1	6.0	30.0	14.0	--	5	60	--	--	
17.	14.1	15.2	10.0	28.0	23.0	--	3	5	--	--	
18.	14.3	--	14.0	--	--	38.0	4	15	--	--	
19.	14.4	15.5	12.0	26.0	16.0	--	3	20	--	--	
20.	14.2	--	4.3	--	--	6.0	2	5	--	--	

PLANT NO.	PHENO.		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	STAGE	SCORE									
	VEG.	REPR.	cm	cm	cm	cm					
1.	17.0	---	10.0	---	---	---	---	---	---	---	
2.	17.0	---	10.0	---	---	---	---	---	---	---	
3.	17.0	---	7.5	---	---	---	---	---	---	---	
4.	17.0	---	13.0	---	---	---	---	---	---	---	
5.	17.0	---	5.5	---	---	---	---	---	---	---	
6.	1.2	---	7.0	---	---	---	---	---	---	---	
7.	1.1	---	8.0	---	---	---	---	---	---	---	
8.	17.0	---	5.0	---	---	---	---	---	---	---	
9.	17.0	---	13.0	---	---	---	---	---	---	---	
10.	1.1	---	11.0	---	---	---	---	---	---	---	
11.	17.0	---	11.0	---	---	---	---	---	---	---	
12.	17.0	---	11.0	---	---	---	---	---	---	---	
13.	1.1	---	15.0	---	---	---	---	---	---	---	
14.	17.0	---	4.0	---	---	---	---	---	---	---	
15.	1.2	---	3.5	---	---	---	---	---	---	---	
16.	17.0	---	4.0	---	---	---	---	---	---	---	
17.	17.0	---	5.5	---	---	---	---	---	---	---	
18.	17.0	---	5.5	---	---	---	---	---	---	---	
19.	1.2	---	6.0	---	---	---	---	---	---	---	
20.	17.0	---	9.0	---	---	---	---	---	---	---	

ARTEMISIA NOVA

Study Area Sweetwater

Date 18 May 1977

PLANT NO.	PHENO.		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	STAGE	SCORE									
	VEG.	REPR.	cm	cm	cm	cm					
1.	2.6	--	9.0	--	--	33.0	4	12	--	--	
2.	3.1	--	11.0	--	--	42.0	4	50	--	--	
3.	3.2	--	6.0	--	--	24.0	3	26	--	--	
4.	3.2	--	10.0	--	--	53.0	4	7	--	--	
5.	2.4	--	13.0	--	--	18.0	3	30	--	--	
6.	3.4	--	8.0	--	--	28.0	3	5	--	--	
7.	2.3	--	7.0	--	--	48.0	5	95	--	--	
8.	2.2	--	5.0	--	--	35.0	5	97	--	--	
9.	3.1	--	12.0	--	--	44.0	4	10	--	--	
10.	3.3	--	9.0	--	--	12.0	3	10	--	--	
11.	3.3	--	10.0	--	--	23.0	3	0	--	--	
12.	3.2	--	11.0	--	--	32.0	3	3	--	--	
13.	2.6	--	15.0	--	--	58.0	4	2	--	--	
14.	3.3	--	4.0	--	--	7.0	1	2	--	--	
15.	2.7	--	5.0	--	--	7.0	4	65	--	--	
16.	2.9	--	4.0	--	--	4.0	5	65	--	--	
17.	2.3	--	4.0	--	--	34.0	3	8	--	--	(Repl.)
18.	2.4	--	4.0	--	--	27.0	4	38	--	--	
19.	2.7	--	6.0	--	--	28.0	4	45	--	--	
20.	2.8	--	7.0	--	--	16.0	3	4	--	--	

ARTEMISIA NOVA

Study Area SweetwaterDate 8 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm
	VEG.	REPR.								
1.	3.2	5.1	9.0	--	--	33.0	4	12	--	3.0
2.	3.2	5.1	11.0	--	--	42.0	4	50	--	3.4
3.	3.2	5.2	6.0	--	--	24.0	3	26	--	3.2
4.	3.3	5.3	10.0	--	--	53.0	4	7	--	7.0
5.	3.2	5.1	13.0	--	--	18.0	3	30	--	4.0
6.	3.4	5.2	8.0	--	--	28.0	3	5	--	7.2
7.	3.3	5.0	7.0	--	--	48.0	5	95	--	7.2
8.	3.2	--	5.0	--	--	35.0	5	97	--	--
9.	3.2	5.1	12.0	--	--	44.0	4	10	--	6.3
10.	3.3	5.1	9.0	--	--	12.0	3	10	--	3.7
11.	3.3	5.2	10.0	--	--	23.0	3	0	--	6.5
12.	3.1	5.0	11.0	--	--	32.0	3	3	--	3.6
13.	3.2	5.1	15.0	--	--	58.0	4	2	--	3.7
14.	3.3	5.2	4.0	--	--	7.0	1	2	--	5.1
15.	3.0	--	5.0	--	--	7.0	4	65	--	--
16.	3.0	--	4.0	--	--	4.0	5	65	--	--
17.	3.1	5.0	4.0	--	--	34.0	3	8	--	5.2
18.	3.1	5.0	4.0	--	--	27.0	4	38	--	3.5
19.	3.1	5.0	6.0	--	--	28.0	4	45	--	3.1
20.	3.3	5.2	7.0	--	--	16.0	3	4	--	5.2

ARTEMISIA NOVA

Study Area Sweetwater

Date 29 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm
	VEG.	REPR.								
1.	3.2	5.2	9.0	--	--	33.0	4	12	--	10.2
2.	3.2	5.1	11.0	--	--	42.0	4	50	--	10.5
3.	3.3	5.3	6.0	--	--	24.0	3	26	--	10.2
4.	3.2	5.2	10.0	--	--	53.0	4	7	--	9.0
5.	3.1	5.2	13.0	--	--	18.0	3	30	--	5.5
6.	3.4	5.6	8.0	--	--	28.0	3	5	--	5.7
7.	3.4	5.3	7.0	--	--	48.0	5	95	--	7.0
8.	3.4	5.3	5.0	--	--	35.0	5	97	--	5.2
9.	3.4	5.5	12.0	--	--	44.0	4	10	--	6.2
10.	3.2	5.2	9.0	--	--	12.0	3	10	--	4.7
11.	3.3	5.3	10.0	--	--	23.0	3	0	--	8.2
12.	3.4	5.4	11.0	--	--	32.0	3	3	--	7.0
13.	3.2	5.2	15.0	--	--	58.0	4	2	--	5.7
14.	3.2	5.2	4.0	--	--	7.0	1	2	--	6.5
15.	3.1	--	5.0	--	--	7.0	4	65	--	--
16.	3.1	--	4.0	--	--	4.0	5	65	--	4.2
17.	3.3	5.3	4.0	--	--	34.0	3	8	--	3.0
18.	3.1	5.2	4.0	--	--	27.0	4	38	--	--
19.	3.3	5.3	6.0	--	--	28.0	4	45	--	5.3
20.	3.5	5.3	7.0	--	--	16.0	3	4	--	7.5

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH.	NEW SEED STALK LNTH.
	VEG.	REPR.	cm	cm	cm	cm			cm	cm
1.	3.5	5.6	9.0	--	--	33.0	4	12	--	5.0
2.	3.6	5.5	11.0	--	--	42.0	4	50	--	7.5
3.	3.5	5.6	6.0	--	--	24.0	3	26	--	10.5
4.	3.5	5.5	10.0	--	--	53.0	4	7	--	8.0
5.	3.6	--	13.0	--	--	18.0	3	30	--	--
6.	3.6	5.7	8.0	--	--	28.0	3	5	--	9.0
7.	3.4	5.5	7.0	--	--	48.0	5	95	--	5.5
8.	3.5	5.6	5.0	--	--	35.0	5	97	--	6.5
9.	3.6	5.7	12.0	--	--	44.0	4	10	--	8.5
10.	3.5	5.6	9.0	--	--	12.0	3	10	--	5.5
11.	3.6	5.7	10.0	--	--	23.0	3	0	--	9.0
12.	3.6	5.7	11.0	--	--	32.0	3	3	--	7.0
13.	3.5	5.5	15.0	--	--	58.0	4	2	--	6.5
14.	3.6	5.6	4.0	--	--	7.0	1	2	--	6.5
15.	3.4	5.3	5.0	--	--	7.0	4	65	--	3.5
16.	3.4	--	4.0	--	--	4.0	5	65	--	--
17.	3.5	5.6	4.0	--	--	34.0	3	8	--	4.5
18.	3.5	5.5	4.0	--	--	27.0	4	38	--	5.0
19.	3.6	5.6	6.0	--	--	28.0	4	45	--	5.5
20.	3.7	5.7	7.0	--	--	16.0	3	4	--	5.5

ARTEMISIA NOVA

Study Area Sweetwater

Date 6 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	3.7	5.8	9.0	--	--	33.0	4	12	--	10.0
2.	3.6	5.5	11.0	--	--	42.0	4	50	--	7.0
3.	3.7	5.7	6.0	--	--	24.0	3	26	--	9.8
4.	3.7	5.7	10.0	--	--	53.0	4	7	--	9.0
5.	3.6	--	13.0	--	--	18.0	3	30	--	--
6.	3.7	5.8	8.0	--	--	28.0	3	5	--	9.2
7.	3.7	5.6	7.0	--	--	48.0	5	95	--	11.1
8.	3.6	5.6	5.0	--	--	35.0	5	97	--	5.5
9.	3.7	5.7	12.0	--	--	44.0	4	10	--	7.5
10.	3.5	5.6	9.0	--	--	12.0	3	10	--	6.8
11.	3.7	5.8	10.0	--	--	23.0	3	0	--	9.5
12.	3.7	5.7	11.0	--	--	32.0	3	3	--	8.0
13.	3.7	5.7	15.0	--	--	58.0	4	2	--	7.5
14.	3.7	5.7	4.0	--	--	7.0	1	2	--	7.3
15.	3.5	--	5.0	--	--	7.0	4	65	--	--
16.	3.5	--	4.0	--	--	4.0	5	65	--	--
17.	3.5	5.5	4.0	--	--	34.0	3	8	--	8.0
18.	3.6	5.6	4.0	--	--	27.0	4	38	--	4.5
19.	3.7	5.7	6.0	--	--	28.0	4	45	--	9.0
20.	3.6	5.5	7.0	--	--	16.0	3	4	--	4.8

ARTEMISIA NOVA

Study Area Sweetwater

Date 18 September 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH. cm	
	VEG.	REPR.	cm	cm	cm	cm					
1.	4.7	11.5	11.0	--	--	24.0	3	10	0.1	5.5	
2.	4.5	10.6	10.0	--	--	17.0	3	2	0.3	8.3	
3.	4.6	11.6	7.0	--	--	23.0	3	35	0.3	5.8	
4.	4.6	11.7	13.0	--	--	31.0	3	2	0.2	8.5	
5.	4.6	11.7	12.0	--	--	17.0	3	20	0.1	5.4	
6.	4.6	10.5	9.0	--	--	17.0	3	4	0.1	7.6	
7.	4.6	11.7	11.0	--	--	30.0	5	90	0.1	6.5	
8.	4.7	11.1	5.0	--	--	27.0	5	95	0.1	4.5	
9.	4.7	11.7	14.0	--	--	30.0	4	2	0.2	8.2	
10.	4.6	11.6	7.0	--	--	14.0	4	30	0.1	4.0	
11.	4.6	11.7	8.0	--	--	24.0	3	2	0.2	7.5	
12.	4.5	10.6	10.0	--	--	21.0	3	4	0.1	7.2	
13.	4.6	11.6	13.0	60.0	30.0	--	3	10	0.2	5.0	
14.	4.6	10.8	4.0	--	--	8.0	2	0	0.3	7.5	
15.	4.7	11.3	4.0	--	--	24.0	5	80	0.1	4.0	
16.	4.7	--	3.0	--	--	11.0	3	60	0.2	--	
17.	4.6	11.3	9.0	--	--	30.0	3	15	0.2	4.5	
18.	4.7	10.3	4.0	--	--	28.0	3	40	0.4	4.0	
19.	4.6	10.2	15.0	--	--	34.0	3	3	0.2	6.0	
20.	4.6	11.4	7.0	--	--	18.0	3	2	0.3	6.5	

ARTEMISIA TRIDENTATA

Study Area Bud Kimball

Date 23 April 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH.	NEW SEED STALK LNTH.	
	VEG.	REPR.									
1.	2.3	---	---	---	---	---	---	---	---	---	
2.	2.4	---	---	---	---	---	---	---	---	---	
3.	2.0	---	---	---	---	---	---	---	---	---	
4.	2.3	---	---	---	---	---	---	---	---	---	
5.	2.1	---	---	---	---	---	---	---	---	---	
6.	2.2	---	---	---	---	---	---	---	---	---	
7.	2.5	---	---	---	---	---	---	---	---	---	
8.	2.2	---	---	---	---	---	---	---	---	---	
9.	2.2	---	---	---	---	---	---	---	---	---	
10.	2.2	---	---	---	---	---	---	---	---	---	
11.	2.2	---	---	---	---	---	---	---	---	---	
12.	2.0	---	---	---	---	---	---	---	---	---	
13.	2.4	---	---	---	---	---	---	---	---	---	
14.	2.3	---	---	---	---	---	---	---	---	---	
15.	2.2	---	---	---	---	---	---	---	---	---	
16.	2.3	---	---	---	---	---	---	---	---	---	
17.	2.4	---	---	---	---	---	---	---	---	---	
18.	2.3	---	---	---	---	---	---	---	---	---	
19.	2.1	---	---	---	---	---	---	---	---	---	
20.	2.1	---	---	---	---	---	---	---	---	---	

ARTEMISIA TRIDENTATA

Study Area Bud Kimball

Date 17 May 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	3.2	---	22.0	---	---	28.0	3	10	---	---
2.	3.2	---	8.0	---	---	13.0	1	0	---	---
3.	3.3	---	21.0	---	---	28.0	3	90	---	---
4.	3.2	---	14.0	---	---	16.0	1	0	---	---
5.	3.2	---	30.0	---	---	41.0	4	15	---	---
6.	3.2	---	16.0	---	---	30.0	3	7	---	---
7.	3.3	---	13.0	---	---	3.5	1	0	---	---
8.	3.2	---	29.0	---	---	55.0	4	3	---	---
9.	2.3	---	13.0	---	---	17.0	1	10	---	---
10.	3.4	---	20.0	---	---	29.0	1	27	---	---
11.	3.3	---	23.0	---	---	38.0	2	4	---	---
12.	3.1	---	13.0	---	---	12.0	1	0	---	---
13.	3.3	---	12.0	---	---	15.0	1	4	---	---
14.	3.5	---	19.0	---	---	15.0	1	0	---	---
15.	3.3	---	25.0	---	---	30.0	2	4	---	---
16.	3.2	---	16.0	---	---	20.0	3	70	---	---
17.	3.3	---	26.0	---	---	15.0	1	2	---	---
18.	3.4	---	58.0	---	---	80.0	4	22	---	---
19.	3.4	---	31.0	---	---	34.0	4	60	---	---
20.	3.4	---	16.0	---	---	15.0	1	5	---	---

ARTEMISIA TRIDENTATA

Study Area Bud Kimball

Date 8 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.6	5.3	22.0	--	--	28.0	3	10	--	8.2	
2.	3.3	--	8.0	--	--	13.0	1	0	--	--	
3.	3.3	5.2	21.0	--	--	28.0	3	90	--	6.2	
4.	3.3	5.0	14.0	--	--	16.0	1	0	--	3.2	
5.	3.3	5.1	30.0	--	--	41.0	4	15	--	5.0	
6.	3.3	5.1	16.0	--	--	30.0	3	7	--	6.0	
7.	3.4	--	13.0	--	--	3.5	1	0	--	--	
8.	3.3	5.2	29.0	--	--	55.0	4	3	--	8.2	
9.	3.4	5.2	13.0	--	--	17.0	1	10	--	5.4	
10.	3.4	--	20.0	--	--	29.0	1	27	--	--	
11.	3.4	5.1	23.0	--	--	38.0	2	4	--	5.6	
12.	3.3	--	13.0	--	--	12.0	1	0	--	--	
13.	3.4	5.2	12.0	--	--	15.0	1	4	--	7.1	
14.	3.5	5.2	19.0	--	--	15.0	1	0	--	8.2	
15.	3.4	5.2	25.0	--	--	30.0	2	4	--	8.5	
16.	3.4	5.2	16.0	--	--	20.0	3	70	--	10.3	
17.	3.3	5.2	26.0	--	--	15.0	1	2	--	13.7	
18.	3.4	5.3	58.0	--	--	80.0	4	12	--	11.2	
19.	3.4	5.2	31.0	--	--	34.0	4	60	--	12.2	
20.	3.4	5.2	16.0	--	--	15.0	1	5	--	10.7	

ARTEMISIA TRIDENTATA

Study Area

Bud KimballDate 1 July 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	3.7	5.5	22.0	--	--	28.0	3	10	--	7.5
2.	3.6	--	8.0	--	--	13.0	1	0	--	--
3.	3.6	5.5	21.0	--	--	28.0	3	90	--	10.2
4.	3.4	5.4	14.0	--	--	16.0	1	0	--	4.5
5.	3.5	5.3	30.0	--	--	41.0	4	15	--	8.1
6.	3.5	5.3	16.0	--	--	30.0	3	7	--	8.7
7.	3.5	--	13.0	--	--	3.5	1	0	--	--
8.	3.6	5.4	29.0	--	--	55.0	4	3	--	10.0
9.	3.4	5.3	13.0	--	--	17.0	1	10	--	6.0
10.	3.5	5.4	20.0	--	--	29.0	1	27	--	7.4
11.	3.6	5.5	23.0	--	--	38.0	2	3	--	5.5
12.	3.5	--	13.0	--	--	12.0	1	0	--	--
13.	3.4	5.3	12.0	--	--	15.0	1	4	--	7.1
14.	3.6	5.5	19.0	--	--	15.0	1	0	--	8.4
15.	3.5	5.3	25.0	--	--	30.0	2	4	--	9.6
16.	3.4	5.2	16.0	--	--	20.0	3	70	--	12.0
17.	3.5	5.2	26.0	--	--	15.0	1	2	--	14.0
18.	3.5	5.3	58.0	--	--	80.0	4	22	--	21.0
19.	3.5	5.2	31.0	--	--	34.0	4	60	--	13.6
20.	3.5	5.2	16.0	--	--	15.0	1	5	--	18.2

ARTEMISIA TRIDENTATA

Study Area Bud Kimball

Date 20 July 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.7	5.5	22.0	--	--	28.0	3	10	--	11.5	
2.	3.6	--	8.0	--	--	13.0	1	0	--	--	
3.	3.7	5.5	21.0	--	--	28.0	3	90	--	7.5	
4.	3.7	5.5	14.0	--	--	16.0	1	0	--	4.5	
5.	3.6	5.5	30.0	--	--	41.0	4	15	--	9.5	
6.	3.5	5.5	16.0	--	--	30.0	3	7	--	7.0	
7.	3.6	--	13.0	--	--	3.5	1	0	--	--	
8.	3.6	5.6	29.0	--	--	55.0	4	3	--	10.0	
9.	3.5	5.5	13.0	--	--	17.0	1	10	--	5.5	
10.	3.6	5.6	20.0	--	--	29.0	1	27	--	6.0	
11.	3.7	5.6	23.0	--	--	38.0	2	4	--	6.5	
12.	3.6	--	13.0	--	--	12.0	1	0	--	--	
13.	3.6	5.4	12.0	--	--	15.0	1	4	--	6.5	
14.	3.7	5.5	19.0	--	--	15.0	1	0	--	8.9	
15.	3.6	5.4	25.0	--	--	30.0	2	4	--	12.5	
16.	3.7	5.4	16.0	--	--	20.0	3	70	--	13.5	
17.	3.7	5.4	26.0	--	--	15.0	1	2	--	20.5	
18.	3.7	5.6	58.0	--	--	80.0	4	22	--	19.0	
19.	3.6	5.4	31.0	--	--	34.0	4	60	--	17.0	
20.	3.7	5.4	16.0	--	--	15.0	1	5	--	15.5	

ARTEMISIA TRIDENTATA

Study Area Bud Kimball

Date 11 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HIGHT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	3.8	5.7	22.0	--	--	28.0	3	10	--	11.0
2.	3.7	--	8.0	--	--	13.0	1	0	--	--
3.	3.7	5.6	21.0	--	--	28.0	3	90	--	12.0
4.	3.7	5.5	14.0	--	--	16.0	1	0	--	5.0
5.	3.7	5.7	30.0	--	--	41.0	4	15	--	8.6
6.	3.7	5.5	16.0	--	--	30.0	3	7	--	5.3
7.	3.6	--	13.0	--	--	3.5	1	0	--	--
8.	3.8	5.8	29.0	--	--	55.0	4	3	--	12.5
9.	3.6	5.7	13.0	--	--	17.0	1	10	--	5.8
10.	3.7	5.6	20.0	--	--	29.0	1	27	--	6.2
11.	3.8	5.8	23.0	--	--	38.0	2	4	--	7.7
12.	3.6	--	13.0	--	--	12.0	1	0	--	--
13.	3.6	5.4	12.0	--	--	15.0	1	4	--	8.0
14.	3.7	5.6	19.0	--	--	15.0	1	0	--	9.2
15.	3.6	5.6	25.0	--	--	30.0	2	4	--	6.4
16.	3.7	5.8	16.0	--	--	20.0	3	70	--	12.6
17.	3.6	5.5	26.0	--	--	15.0	1	2	--	17.8
18.	3.9	5.8	58.0	--	--	80.0	4	22	--	16.2
19.	3.8	5.8	31.0	--	--	34.0	4	60	--	18.2
20.	3.7	5.4	16.0	--	--	15.0	1	5	--	13.2

ARTEMISIA TRIDENTATA

Study Area Bud Kimball

Date 17 September 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH cm	
	VEG.	REPR.									
1.	4.3	9.0	17.0	--	--	23.0	3	40	5.0	11.5	
2.	4.2	--	9.5	--	--	14.0	2	2	2.0	--	
3.	4.2	9.2	24.0	44.0	20.0	--	3	85	2.5	13.5	
4.	4.4	8.5	13.0	28.0	20.0	--	2	0	2.5	11.5	
5.	4.3	8.6	37.0	74.0	45.0	--	3	10	2.0	13.0	
6.	4.5	8.9	16.0	45.0	25.0	--	2	5	2.0	10.0	
7.	4.4	--	13.0	--	--	12.0	2	0	2.5	--	
8.	4.3	8.9	30.0	--	--	64.0	4	10	2.0	12.5	
9.	4.5	8.5	13.0	--	--	23.0	2	15	1.5	7.0	
10.	4.3	8.8	16.0	--	--	23.0	3	15	2.5	6.0	
11.	4.2	9.1	25.0	--	--	44.0	3	0	3.0	8.5	
12.	4.5	--	13.0	--	--	15.0	2	0	2.0	--	
13.	4.5	8.2	12.0	--	--	16.0	2	10	2.5	6.0	
14.	4.4	5.6	22.0	--	--	16.0	2	0	3.0	8.5	
15.	4.5	8.9	22.0	40.0	29.0	--	3	5	2.5	13.0	
16.	4.4	8.7	17.0	45.0	30.0	--	3	80	2.5	13.5	
17.	4.3	8.7	26.0	--	--	38.0	3	80	2.5	20.0	
18.	4.3	9.1	60.0	115.0	70.0	--	4	15	6.5	22.0	
19.	4.4	8.5	15.0	61.0	--	38.0	3	75	5.0	20.0	
20.	4.4	8.5	14.0	--	--	30.0	2	0	3.5	25.0	

ARTEMISIA TRIDENTATA

Study Area Cedar Mtn.

Date 19 May 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	2.1	--	4.0	--	--	10.0	2	0	--	--	(Repl.)
2.	2.1	--	9.0	--	--	13.0	1	30	--	--	
3.	2.4	--	30.0	--	--	20.0	3	3	--	--	
4.	3.0	--	3.0	--	--	2.5	1	1	--	--	(Repl.)
5.	3.0	--	10.0	--	--	2.0	1	10	--	--	
6.	2.8	--	13.0	--	--	10.0	1	5	--	--	
7.	2.7	--	29.0	--	--	43.0	3	7	--	--	
8.	3.1	--	17.0	--	--	20.0	2	2	--	--	
9.	3.0	--	30.0	--	--	58.0	4	10	--	--	
10.	2.7	--	42.0	--	--	67.0	4	1	--	--	
11.	2.5	--	43.0	--	--	50.0	3	5	--	--	(Repl.)
12.	2.9	--	5.0	--	--	5.0	1	1	--	--	
13.	3.1	--	43.0	--	--	62.0	3	3	--	--	
14.	2.7	--	23.0	--	--	22.0	2	3	--	--	(Repl.)
15.	2.2	--	22.0	--	--	22.0	2	75	--	--	
16.	3.1	--	16.0	--	--	17.0	2	80	--	--	
17.	2.1	--	36.0	--	--	53.0	3	35	--	--	
18.	3.2	--	8.0	--	--	7.0	1	2	--	--	
19.	2.4	--	36.0	--	--	33.0	3	85	--	--	
20.	2.2	--	30.0	--	--	50.0	3	2	--	--	(Repl.)

ARTEMISIA TRIDENTATA

Study Area Cedar Mtn.

Date 7 June 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	STAGE	SCORE								
	VEG.	REPR.	cm	cm	cm	cm				
1.	2.6	--	4.0	--	--	10.0	2	0	--	--
2.	2.7	--	9.0	--	--	13.0	2	30	--	--
3.	2.8	--	30.0	--	--	20.0	3	3	--	--
4.	3.0	--	3.0	--	--	2.5	1	1	--	--
5.	3.4	--	10.0	--	--	2.0	1	10	--	--
6.	3.2	--	13.0	--	--	10.0	1	5	--	--
7.	2.9	--	29.0	--	--	43.0	3	7	--	--
8.	3.3	--	17.0	--	--	20.0	2	2	--	--
9.	3.2	--	30.0	--	--	58.0	4	10	--	--
10.	3.3	--	42.0	--	--	67.0	4	1	--	--
11.	3.0	--	43.0	--	--	50.0	3	5	--	--
12.	3.3	--	5.0	--	--	5.0	1	1	--	--
13.	3.1	--	43.0	--	--	62.0	3	3	--	--
14.	3.2	--	23.0	--	--	22.0	2	3	--	--
15.	3.1	--	22.0	--	--	22.0	2	75	--	--
16.	3.3	--	16.0	--	--	17.0	2	80	--	--
17.	2.3	--	36.0	--	--	53.0	3	35	--	--
18.	3.3	--	8.0	--	--	7.0	1	2	--	--
19.	2.5	--	36.0	--	--	33.0	3	85	--	--
20.	2.7	--	30.0	--	--	50.0	3	2	--	--

ARTEMISIA TRIDENTATA

Study Area Cedar Mtn.

Date 29 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.3	--	4.0	--	--	10.0	2	0	--	--	
2.	3.4	--	9.0	--	--	13.0	2	30	--	--	
3.	3.4	--	30.0	--	--	20.0	3	3	--	--	
4.	3.3	--	3.0	--	--	2.5	1	1	--	--	
5.	3.4	--	10.0	--	--	2.0	1	10	--	--	
6.	3.3	--	13.0	--	--	10.0	1	5	--	--	
7.	3.4	--	29.0	--	--	43.0	3	7	--	--	
8.	3.3	--	17.0	--	--	20.0	2	2	--	--	lys
9.	3.5	5.0	30.0	--	--	58.0	4	10	--	2.0	Drying
10.	3.4	5.0	42.0	--	--	67.0	4	1	--	2.0	
11.	3.3	5.0	43.0	--	--	50.0	3	5	--	1.5	
12.	3.3	--	5.0	--	--	5.0	1	1	--	--	infection
13.	3.4	5.0	43.0	--	--	62.0	3	3	--	1.5	or disease
14.	3.2	--	23.0	--	--	22.0	2	3	--	--	
15.	3.2	--	22.0	--	--	22.0	2	75	--	--	
16.	3.5	5.3	16.0	--	--	17.0	2	80	--	3.5	
17.	3.3	--	36.0	--	--	53.0	3	35	--	--	
18.	3.4	--	8.0	--	--	7.0	1	2	--	--	
19.	3.5	5.1	36.0	--	--	33.0	3	85	--	3.0	
20.	3.3	--	30.0	--	--	50.0	3	2	--	--	

ARTEMISIA TRIDENTATA

Study Area Cedar Mtn.

Date 19 July 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.3	--	4.0	--	--	10.0	2	0	--	--	
2.	3.4	--	9.0	--	--	13.0	2	30	--	--	
3.	3.4	--	30.0	--	--	20.0	3	3	--	--	lv drop
4.	3.4	--	3.0	--	--	2.5	1	1	--	--	
5.	3.4	--	10.0	--	--	2.0	1	10	--	--	Dry
6.	3.4	--	13.0	--	--	10.0	1	5	--	--	Repr
7.	3.4	--	29.0	--	--	43.0	3	7	--	--	
8.	3.4	--	17.0	--	--	20.0	2	2	--	--	
9.	3.5	5.0	30.0	--	--	58.0	4	10	--	2.0	
10.	3.4	5.0	42.0	--	--	67.0	4	1	--	2.0	
11.	3.5	5.0	43.0	--	--	50.0	3	5	--	1.5	
12.	3.4	--	5.0	--	--	5.0	1	1	--	--	
13.	3.5	5.0	43.0	--	--	62.0	3	3	--	1.5	
14.	3.3	--	23.0	--	--	22.0	2	3	--	--	
15.	3.2	--	22.0	--	--	22.0	2	75	--	--	
16.	3.5	5.3	16.0	--	--	17.0	2	80	--	3.5	
17.	3.3	--	36.0	--	--	53.0	3	35	--	--	
18.	3.4	--	8.0	--	--	7.0	1	2	--	--	
19.	3.5	5.3	36.0	--	--	33.0	3	85	--	3.4	
20.	3.4	--	30.0	--	--	50.0	3	2	--	--	

ARTEMISIA TRIDENTATA

Study Area Cedar Mtn.

Date 18 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.5	--	4.0	--	--	10.0	2	0	--	--	
2.	3.5	--	9.0	--	--	13.0	2	30	--	--	
3.	3.6	--	30.0	--	--	20.0	3	3	--	--	
4.	3.5	--	3.0	--	--	2.5	1	1	--	--	
5.	3.4	--	10.0	--	--	2.0	1	10	--	--	
6.	3.6	--	13.0	--	--	10.0	1	5	--	--	
7.	3.4	--	29.0	--	--	43.0	3	7	--	--	
8.	3.6	5.4	17.0	--	--	20.0	2	2	--	2.5	
9.	3.6	5.4	30.0	--	--	58.0	4	10	--	3.0	
10.	3.6	5.7	42.0	--	--	67.0	4	1	--	3.0	
11.	3.6	5.3	43.0	--	--	50.0	3	5	--	1.7	
12.	3.5	--	5.0	--	--	5.0	1	1	--	--	(Repl)
13.	3.6	5.5	43.0	--	--	62.0	3	3	--	1.5	
14.	3.5	5.0	23.0	--	--	22.0	2	3	--	0.2	
15.	3.5	5.2	22.0	--	--	22.0	2	75	--	0.4	
16.	3.5	5.3	16.0	--	--	17.0	2	80	--	4.0	
17.	3.6	5.2	36.0	--	--	53.0	3	35	--	0.5	
18.	3.7	--	8.0	--	--	7.0	1	7	--	--	
19.	3.8	5.8	36.0	--	--	33.0	3	85	--	3.5	
20.	3.5	--	30.0	--	--	50.0	3	2	--	--	

ARTEMISIA TRIDENTATA

Study Area Cedar Mtn.

Date 9 Sept. 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LENGTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LENGTH. cm	NEW SEED STALK LENGTH cm	
	VEG.	REPR.									
1.	4.0	--	5.0	--	--	10.0	2	40	0.1	--	
2.	3.9	--	11.0	16.0	8.0	--	3	65	0.2	--	
3.	3.8	6.7	27.0	30.0	15.0	--	3	5	0.1	1.2	
4.	3.8	--	3.4	--	--	2.5	2	10	0.1	--	
5.	3.8	6.5	13.0	19.0	6.0	--	2	20	1.0	3.4	
6.	4.0	6.5	13.0	--	--	10.0	2	10	0.1	3.3	
7.	3.9	6.5	29.0	36.0	20.0	--	3	7	0.1	0.9	
8.	3.8	6.5	19.0	--	--	18.0	3	7	0.2	3.5	
9.	4.0	6.7	30.0	--	--	57.0	4	40	1.1	2.8	
10.	3.8	6.8	44.0	--	--	57.0	4	3	0.1	2.2	
11.	3.8	6.5	40.0	--	--	50.0	4	4	0.2	1.8	
12.	3.8	--	6.0	--	--	5.0	2	18	0.3	--	
13.	4.0	6.8	44.0	--	--	62.0	4	2	0.1	1.3	
14.	3.8	6.4	17.0	--	--	21.0	3	2	0.1	0.7	
15.	3.9	6.8	18.0	--	--	18.0	3	24	0.1	1.3	
16.	3.8	7.2	17.0	21.0	8.0	--	2	30	0.9	4.7	
17.	4.3	7.6	37.0	--	--	45.0	4	13	0.1	2.5	
18.	3.9	--	8.0	--	--	6.0	2	0	1.5	--	
19.	4.0	6.7	36.0	--	--	31.0	4	65	0.3	3.5	
20.	4.2	6.2	31.0	60.0	42.0	--	4	4	0.1	1.0	

ARTEMISIA TRIDENTA

Study Area Cedar Mtn.

Date 5 November 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LGTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH cm	
	VEG.	REPR.									
1.	4.8	--	5.0	--	--	10.0	2	40	--	--	
2.	14.2	--	11.0	16.0	8.0	--	3	65	--	--	
3.	4.9	15.2	27.0	30.0	15.0	--	3	5	--	--	
4.	4.8	--	3.4	--	--	2.5	2	10	--	--	
5.	4.8	15.2	13.0	19.0	6.0	--	2	20	--	--	
6.	4.9	15.5	13.0	--	--	10.0	2	10	--	--	
7.	4.8	15.5	29.0	36.0	20.0	--	3	7	--	--	
8.	4.8	13.6	19.0	--	--	18.0	3	7	--	--	
9.	14.0	15.1	30.0	--	--	57.0	4	40	--	--	
10.	4.8	15.0	44.0	--	--	57.0	4	3	--	--	
11.	4.9	13.8	40.0	--	--	50.0	4	4	--	--	
12.	4.9	--	6.0	--	--	5.0	2	18	--	--	
13.	4.8	15.4	44.0	--	--	62.0	4	2	--	--	
14.	4.8	13.7	17.0	--	--	21.0	3	2	--	--	
15.	4.9	15.2	18.0	--	--	18.0	3	24	--	--	
16.	4.8	13.9	17.0	21.0	8.0	--	2	30	--	--	
17.	4.9	15.2	37.0	--	--	45.0	4	13	--	--	
18.	4.8	--	8.0	--	--	6.0	2	0	--	--	
19.	14.0	15.2	36.0	--	--	31.0	4	65	--	--	
20.	4.9	13.3	31.0	60.0	42.0	--	4	4	--	--	

ARTEMISIA TRIDENTATA

Study Area Cumberland #3

Date 19 May 1977

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PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNGTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG- LNGTH. cm	NEW SEED STALK LNGTH cm	
	VEG.	REPR.									
1.	3.1	--	42.0	--	--	25.0	2.0	47.0	--	--	
2.	3.1	--	23.0	--	--	23.0	2.0	6.0	--	--	(Repl.)
3.	3.3	--	32.0	--	--	17.0	2.0	30.0	--	--	
4.	3.3	--	41.0	--	--	43.0	4.0	50.0	--	--	
5.	3.3	--	52.0	--	--	23.0	4.0	30.0	--	--	
6.	2.7	--	47.0	--	--	12.0	4.0	45.0	--	--	(Repl.)
7.	3.2	--	37.0	--	--	26.0	3.0	7.0	--	--	
8.	3.1	--	48.0	--	--	40.0	3.0	95.0	--	--	
9.	3.2	--	24.0	--	--	26.0	3.0	90.0	--	--	(Repl.)
10.	3.2	--	66.0	--	--	60.0	5.0	60.0	--	--	
11.	3.2	--	30.0	--	--	25.0	4.0	95.0	--	--	
12.	2.9	--	20.0	--	--	18.0	5.0	93.0	--	--	
13.	3.0	--	70.0	--	--	104.0	5.0	30.0	--	--	
14.	3.2	--	31.0	--	--	46.0	4.0	5.0	--	--	
15.	2.6	--	56.0	--	--	42.0	5.0	80.0	--	--	
16.	2.7	--	53.0	--	--	57.0	4.0	75.0	--	--	
17.	2.4	--	80.0	--	--	80.0	4.0	4.0	--	--	(Repl.)
18.	2.4	--	44.0	--	--	50.0	3.0	15.0	--	--	
19.	3.3	--	54.0	--	--	42.0	4.0	55.0	--	--	
20.	3.3	--	40.0	--	--	25.0	3.0	35.0	--	--	

ARTEMISIA TRIDENTATA

Study Area Cumberland #3

Date 7 June 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH. cm
	STAGE	SCORE								
	VEG.	REPR.	cm	cm	cm	cm				
1.	3.2	5.0	42.0	--	--	25.0	2	47	--	1.5
2.	3.2	--	23.0	--	--	23.0	2	6	--	--
3.	3.4	--	32.0	--	--	17.0	2	30	--	--
4.	3.3	5.0	41.0	--	--	43.0	4	50	--	2.5
5.	3.5	--	52.0	--	--	23.0	4	30	--	--
6.	3.3	--	47.0	--	--	12.0	4	45	--	--
7.	3.4	5.0	37.0	--	--	26.0	3	7	--	2.0
8.	3.1	--	48.0	--	--	40.0	3	95	--	--
9.	3.4	--	24.0	--	--	26.0	3	90	--	2.5
10.	3.3	5.0	66.0	--	--	60.0	5	60	--	--
11.	3.4	--	30.0	--	--	25.0	4	95	--	--
12.	3.3	--	20.0	--	--	18.0	5	93	--	--
13.	3.4	5.0	70.0	--	--	104.0	5	30	--	3.0
14.	3.5	5.0	61.0	--	--	46.0	4	5	--	2.5
15.	3.0	--	56.0	--	--	42.0	5	80	--	--
16.	3.5	5.0	53.0	--	--	57.0	4	75	--	4.0
17.	3.4	5.0	80.0	--	--	80.0	4	4	--	2.5
18.	3.3	5.0	44.0	--	--	50.0	3	15	--	3.0
19.	3.4	5.0	54.0	--	--	42.0	4	55	--	3.0
20.	3.3	5.0	40.0	--	--	25.0	3	35	--	2.0

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.	cm	cm	cm	cm				
1.	3.5	5.3	42.0	--	--	25.0	2	47	--	2.0
2.	3.4	--	23.0	--	--	23.0	2	6	--	--
3.	3.6	5.3	32.0	--	--	17.0	2	30	--	2.3
4.	3.5	5.4	41.0	--	--	43.0	4	50	--	2.5
5.	3.4	5.2	52.0	--	--	23.0	4	30	--	2.0
6.	3.5	--	47.0	--	--	12.0	4	45	--	--
7.	3.4	5.3	37.0	--	--	26.0	3	7	--	2.5
8.	3.3	--	48.0	--	--	40.0	3	95	--	--
9.	3.3	--	24.0	--	--	26.0	3	90	--	--
10.	3.4	5.2	66.0	--	--	60.0	5	60	--	2.5
11.	3.4	--	30.0	--	--	25.0	4	95	--	--
12.	3.4	--	20.0	--	--	18.0	5	93	--	--
13.	3.5	5.4	70.0	--	--	104.0	5	30	--	4.0
14.	3.5	5.3	61.0	--	--	46.0	4	5	--	2.5
15.	3.2	--	56.0	--	--	42.0	5	80	--	--
16.	3.4	5.4	53.0	--	--	57.0	4	75	--	4.5
17.	3.5	5.3	80.0	--	--	80.0	4	4	--	3.0
18.	3.2	5.0	44.0	--	--	50.0	3	15	--	3.0
19.	3.4	5.2	54.0	--	--	42.0	4	55	--	3.5
20.	3.4	5.2	40.0	--	--	25.0	3	35	--	3.0

ARTEMISIA TRIDENTATA

Study Area Cumberland #3

Date 20 July 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	STAGE	SCORE								
	VEG.	REPR.	cm	cm	cm	cm				
1.	3.5	5.3	42.0	--	--	25.0	2	47	--	2.0
2.	3.5	--	23.0	--	--	23.0	2	6	--	--
3.	3.6	5.5	32.0	--	--	17.0	2	30	--	3.7
4.	3.5	5.5	41.0	--	--	43.0	4	50	--	4.5
5.	3.5	5.3	52.0	--	--	23.0	4	30	--	2.1
6.	3.7	--	47.0	--	--	12.0	4	45	--	--
7.	3.5	5.7	37.0	--	--	26.0	3	7	--	5.4
8.	3.4	--	48.0	--	--	40.0	3	95	--	--
9.	3.3	--	24.0	--	--	26.0	3	90	--	--
10.	3.4	5.5	66.0	--	--	60.0	5	60	--	5.0
11.	3.4	--	30.0	--	--	25.0	4	95	--	--
12.	3.5	5.2	20.0	--	--	18.0	5	93	--	4.3
13.	3.6	5.3	70.0	--	--	104.0	5	30	--	6.8
14.	3.5	5.4	61.0	--	--	46.0	4	5	--	4.6
15.	3.2	--	56.0	--	--	42.0	5	80	--	--
16.	3.6	5.5	53.0	--	--	57.0	4	75	--	4.6
17.	3.6	5.5	80.0	--	--	80.0	4	4	--	5.1
18.	3.2	5.4	44.0	--	--	50.0	3	15	--	4.5
19.	3.4	5.2	54.0	--	--	42.0	4	55	--	4.6
20.	3.4	5.3	40.0	--	--	25.0	3	35	--	4.4

ARTEMISIA TRIDENTATA

Study Area Cumberland #3

Date 9 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.8	6.1	42.0	--	--	25.0	2	47	2.2	--	
2.	3.7	--	23.0	--	--	23.0	2	6	--	--	
3.	3.8	6.0	32.0	--	--	17.0	2	30	3.7	--	
4.	3.6	5.9	41.0	--	--	43.0	4	50	4.5	--	
5.	3.6	5.9	52.0	--	--	23.0	4	30	2.7	--	
6.	3.8	--	47.0	--	--	12.0	4	45	--	--	
7.	3.7	5.9	37.0	--	--	26.0	3	7	5.7	--	
8.	3.6	5.8	48.0	--	--	40.0	3	95	2.2	--	
9.	3.4	--	24.0	--	--	26.0	3	90	--	--	
10.	3.7	5.9	66.0	--	--	60.0	5	60	5.3	--	
11.	3.8	--	30.0	--	--	25.0	4	95	--	--	
12.	4.0	5.6	20.0	--	--	18.0	5	93	4.3	--	
13.	3.9	5.9	70.0	--	--	104.0	5	30	6.8	--	
14.	3.7	5.8	61.0	--	--	46.0	4	5	4.7	--	
15.	4.1	--	56.0	--	--	42.0	5	80	--	--	
16.	3.9	5.9	53.0	--	--	57.0	4	75	6.2	--	
17.	3.9	5.8	80.0	--	--	80.0	4	4	6.2	--	
18.	3.9	6.0	44.0	--	--	50.0	3	15	4.7	--	
19.	3.9	5.9	54.0	--	--	42.0	4	55	4.7	--	
20.	3.9	5.8	40.0	--	--	25.0	3	35	4.6	--	

ARTEMISIA TRIDENTATA

Study Area Cumberland #3

Date 8 September 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH. cm
	VEG.	REPR.								
1.	3.9	6.3	45.0	--	--	26.0	3	35	.7	2.5
2.	3.9	--	26.0	--	--	18.0	2	45	1.5	--
3.	4.0	7.1	32.0	--	--	10.0	2	65	1.5	4.0
4.	3.9	6.7	44.0	--	--	37.0	3	5	1.5	5.0
5.	4.3	6.2	55.0	--	--	35.0	5	35	1.0	5.0
6.	4.0	--	54.0	--	--	25.0	5	65	2.0	--
7.	3.9	5.9	36.0	--	--	28.0	3	5	1.5	6.0
8.	4.2	6.5	47.0	--	--	43.0	4	90	.5	2.0
9.	4.0	--	30.0	--	--	25.0	2	50	.5	--
10.	4.1	6.4	72.0	--	--	66.0	5	65	.5	5.5
11.	4.1	--	33.0	--	--	28.0	3	50	.5	--
12.	4.1	6.3	24.0	--	--	19.0	2	5	.5	5.0
13.	4.0	6.5	73.0	--	--	90.0	4	20	1.0	6.5
14.	3.9	7.5	64.0	--	--	46.0	3	5	.5	6.5
15.	4.2	--	59.0	--	--	37.0	3	50	.5	--
16.	3.9	7.6	53.0	--	--	63.0	4	55	2.0	6.5
17.	4.0	6.7	88.0	--	--	85.0	4	15	1.5	5.0
18.	4.1	7.0	44.0	--	--	42.0	3	20	1.5	5.0
19.	4.1	7.1	58.0	--	--	35.0	3	35	1.0	4.6
20.	3.9	6.1	45.0	--	--	45.0	3	50	1.5	4.6

ARTEMISIA TRIDENTATA

Study Area Cumberland #3

Date 5 November 1977

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PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LNGTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm	
	VEG.	REPR.									
1.	4.8	15.5	45.0	--	--	26.0	3	35	--	--	
2.	4.9	--	26.0	--	--	18.0	2	45	--	--	
3.	4.8	15.5	32.0	--	--	10.0	2	65	--	--	
4.	4.8	15.5	44.0	--	--	37.0	3	5	--	--	
5.	14.0	15.5	55.0	--	--	35.0	5	35	--	--	
6.	14.0	--	54.0	--	--	25.0	5	65	--	--	
7.	14.0	15.3	36.0	--	--	28.0	3	5	--	--	
8.	4.9	15.5	47.0	--	--	43.0	4	90	--	--	
9.	14.0	--	30.0	--	--	25.0	2	50	--	--	
10.	4.9	15.4	72.0	--	--	66.0	5	65	--	--	
11.	4.8	--	33.0	--	--	29.0	3	50	--	--	
12.	4.8	--	24.0	--	--	19.0	2	5	--	--	
13.	14.0	15.6	73.0	--	--	90.0	4	20	--	--	
14.	14.0	15.6	64.0	--	--	46.0	3	5	--	--	
15.	4.9	--	59.0	--	--	37.0	3	50	--	--	
16.	4.9	15.4	53.0	--	--	63.0	4	55	--	--	
17.	14.1	15.4	88.0	--	--	85.0	4	15	--	--	
18.	4.9	15.4	44.0	--	--	42.0	3	20	--	--	
19.	14.0	15.5	58.0	--	--	35.0	3	50	--	--	
20.	14.0	15.5	45.0	--	--	45.0	3	50	--	--	

ARTEMISIA TRIDENTATA

Study Area Demer

Date 23 April 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	1.9	---	---	---	---	---	---	---	---	---	
2.	2.1	---	---	---	---	---	---	---	---	---	
3.	1.7	---	---	---	---	---	---	---	---	---	
4.	1.8	---	---	---	---	---	---	---	---	---	
5.	2.1	---	---	---	---	---	---	---	---	---	
6.	2.3	---	---	---	---	---	---	---	---	---	
7.	2.3	---	---	---	---	---	---	---	---	---	
8.	2.0	---	---	---	---	---	---	---	---	---	
9.	2.4	---	---	---	---	---	---	---	---	---	
10.	1.4	---	---	---	---	---	---	---	---	---	
11.	2.1	---	---	---	---	---	---	---	---	---	
12.	1.4	---	---	---	---	---	---	---	---	---	
13.	2.1	---	---	---	---	---	---	---	---	---	
14.	2.4	---	---	---	---	---	---	---	---	---	
15.	2.3	---	---	---	---	---	---	---	---	---	
16.	2.5	---	---	---	---	---	---	---	---	---	
17.	2.0	---	---	---	---	---	---	---	---	---	
18.	2.2	---	---	---	---	---	---	---	---	---	
19.	2.2	---	---	---	---	---	---	---	---	---	
20.	2.2	---	---	---	---	---	---	---	---	---	

ARTEMISIA TRIDENTATA

Study Area Demer

Date 17 May 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LNETH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNETH. cm	NEW SEED STALK LNETH cm	
	VEG.	REPR.									
1.	3.2	---	17.0	--	---	15.0	2	7.0	---	---	
2.	3.3	---	20.0	---	---	27.0	3	2.0	---	---	
3.	2.6	---	17.0	---	---	23.0	3	85.0	---	---	
4.	3.1	---	14.0	---	---	17.0	2	5.0	---	---	
5.	3.1	---	18.0	---	---	34.0	3	12.0	---	---	
6.	3.0	---	23.0	---	---	21.0	3	35.0	---	---	
7.	2.8	---	10.0	--	---	10.0	2	5.0	---	---	
8.	3.0	---	21.0	--	---	18.0	3	15.0	---	---	
9.	3.4	---	29.0	---	---	30.0	4	7.0	---	---	
10.	3.3	---	33.0	---	---	45.0	4	0.0	---	---	
11.	3.4	---	30.0	---	---	38.0	3	2.0	---	---	
12.	3.1	---	23.0	---	---	38.0	3	2.0	---	---	
13.	3.2	---	14.5	---	---	60.0	5	87.0	---	---	
14.	3.4	---	32.0	--	---	18.0	3	5.0	---	---	
15.	3.5	---	51.0	---	---	30.0	4	20.0	---	---	
16.	3.5	---	13.0	---	---	16.0	3	30.0	---	---	
17.	3.0	---	12.0	--	---	20.0	3	4.0	---	---	
18.	3.4	---	24.5	---	---	33.0	3	7.0	---	---	
19.	3.0	---	14.0	---	---	20.0	4	75.0	---	---	
20.	3.4	---	28.0	---	---	37.0	3	35.0	---	---	

ARTEMISIA TRIDENTATA

Study Area Demer

Date 9 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH. cm
	VEG.	REPR.								
1.	3.5	--	17.0	--	--	15.0	2	7.0	--	--
2.	3.3	5.3	20.0	--	--	27.0	3	2.0	--	5.0
3.	3.2	--	17.0	--	--	23.0	3	85.0	--	--
4.	3.3	5.0	14.0	--	--	17.0	2	5.0	--	2.2
5.	3.2	5.1	18.0	--	--	34.0	3	12.0	--	4.0
6.	3.3	5.2	23.0	--	--	21.0	3	35.0	--	4.1
7.	3.4	5.2	10.0	--	--	10.0	2	5.0	--	3.6
8.	3.4	5.3	21.0	--	--	18.0	3	15.0	--	6.0
9.	3.4	5.2	29.0	--	--	30.0	4	7.0	--	5.7
10.	3.3	5.2	33.0	--	--	45.0	4	0.0	--	5.5
11.	3.4	5.1	30.0	--	--	38.0	3	2.0	--	6.6
12.	3.3	5.1	23.0	--	--	38.0	3	2.0	--	4.0
13.	3.3	5.0	14.5	--	--	60.0	5	87.0	--	2.2
14.	3.4	5.2	32.0	--	--	18.0	3	5.0	--	5.4
15.	3.6	5.3	51.0	--	--	30.0	4	20.0	--	10.2
16.	3.5	5.3	13.0	--	--	16.0	3	30.0	--	10.2
17.	3.2	5.0	12.0	--	--	20.0	3	4.0	--	3.0
18.	3.4	5.2	24.5	--	--	33.0	3	7.0	--	6.5
19.	3.4	5.2	14.0	--	--	20.0	4	75.0	--	5.7
20.	3.3	5.1	28.0	--	--	37.0	3	35.0	--	6.4

ARTEMISIA TRIDENTATA

Study Area Demer

Date 30 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.5	5.5	17.0	--	--	15.0	2	7	--	5.5	
2.	3.4	5.4	20.0	--	--	27.0	3	2	--	5.2	
3.	3.3	--	17.0	--	--	23.0	3	85	--	--	Dying
4.	3.5	5.5	14.0	--	--	17.0	2	5	--	2.2	
5.	3.5	5.4	18.0	--	--	34.0	3	12	--	3.7	
6.	3.5	5.2	23.0	--	--	21.0	3	35	--	4.4	
7.	3.4	5.2	10.0	--	--	10.0	2	5	--	4.2	
8.	3.5	5.4	21.0	--	--	18.0	3	15	--	6.2	
9.	3.4	5.3	29.0	--	--	30.0	4	7	--	6.3	
10.	3.4	5.3	33.0	--	--	45.0	4	0	--	7.0	
11.	3.5	5.4	30.0	--	--	38.0	3	2	--	5.7	
12.	3.5	5.4	23.0	--	--	38.0	3	2	--	4.2	
13.	3.3	5.1	14.5	--	--	60.0	5	87	--	5.0	Dying
14.	3.5	5.4	32.0	--	--	18.0	3	5	--	5.4	
15.	3.6	5.2	51.0	--	--	30.0	4	20	--	10.7	
16.	3.4	5.4	13.0	--	--	16.0	3	30	--	10.5	
17.	3.3	5.2	12.0	--	--	20.0	3	4	--	3.5	
18.	3.5	5.2	24.5	--	--	33.0	3	7	--	9.5	
19.	3.4	5.2	14.0	--	--	20.0	4	75	--	9.5	
20.	3.4	5.4	28.0	--	--	37.0	3	35	--	6.5	

ARTEMISIA TRIDENTATA

Study Area

Demer

Date 20 July 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm
	VEG.	REPR.								
1.	3.5	5.5	17.0	--	--	15.0	2	7	--	5.6
2.	3.6	5.4	20.0	--	--	27.0	3	2	--	5.5
3.	3.6	5.4	17.0	--	--	23.0	3	85	--	8.0
4.	3.6	5.2	14.0	--	--	17.0	2	5	--	2.0
5.	3.6	5.4	18.0	--	--	34.0	3	12	--	3.5
6.	3.5	5.3	23.0	--	--	21.0	3	35	--	4.5
7.	3.6	5.4	10.0	--	--	10.0	2	5	--	4.0
8.	3.5	5.6	21.0	--	--	18.0	3	15	--	7.0
9.	3.6	5.6	29.0	--	--	30.0	4	7	--	6.5
10.	3.5	5.4	33.0	--	--	45.0	4	0	--	8.5
11.	3.7	5.5	30.0	--	--	38.0	3	2	--	7.5
12.	3.6	5.6	23.0	--	--	38.0	3	2	--	6.0
13.	3.5	5.1	14.5	--	--	60.0	5	87	--	5.0
14.	3.6	5.4	32.0	--	--	18.0	3	5	--	5.0
15.	3.7	5.5	51.0	--	--	30.0	4	20	--	12.0
16.	3.6	5.6	13.0	--	--	16.0	3	30	--	11.0
17.	3.5	5.3	12.0	--	--	20.0	3	4	--	4.0
18.	3.7	5.5	24.5	--	--	33.0	3	7	--	9.0
19.	3.5	5.4	14.0	--	--	20.0	4	75	--	11.0
20.	3.6	5.3	28.0	--	--	37.0	3	35	--	7.0

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	3.8	5.6	17.0	--	--	15.0	2	7	--	5.7
2.	3.7	5.5	20.0	--	--	27.0	3	2	--	5.3
3.	3.8	5.5	17.0	--	--	23.0	3	85	--	--
4.	3.7	5.3	14.0	--	--	17.0	2	5	--	2.7
5.	3.7	6.1	18.0	--	--	34.0	3	12	--	3.7
6.	3.9	5.5	23.0	--	--	21.0	3	35	--	4.5
7.	3.8	5.3	10.0	--	--	10.0	2	5	--	5.2
8.	3.7	5.4	21.0	--	--	18.0	3	15	--	7.0
9.	3.7	5.9	29.0	--	--	30.0	4	7	--	6.4
10.	3.7	5.3	33.0	--	--	45.0	4	0	--	8.7
11.	3.7	6.0	30.0	--	--	38.0	3	2	--	6.5
12.	3.8	5.8	23.0	--	--	38.0	3	2	--	5.5
13.	3.9	5.5	14.5	--	--	60.0	5	87	--	4.5
14.	3.7	5.3	32.0	--	--	18.0	3	5	--	6.2
15.	3.8	5.5	51.0	--	--	30.0	4	20	--	10.2
16.	3.7	5.6	13.0	--	--	16.0	3	30	--	11.0
17.	3.8	5.5	12.0	--	--	20.0	3	4	--	4.0
18.	3.8	5.7	24.5	--	--	33.0	3	7	--	6.7
19.	3.8	6.0	14.0	--	--	20.0	4	75	--	7.4
20.	3.8	5.3	28.0	--	--	37.0	3	35	--	5.5

ARTEMISIA TRIDENTATA

Study Area Demer

Date 17 September 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LGTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH. cm
	VEG.	REPR.								
1.	4.5	--	15.0	--	--	10.0	3.0	65.0	0.3	5.7
2.	4.5	11.3	19.0	--	--	28.0	3.0	7.0	0.3	4.2
3.	4.5	--	13.0	--	--	28.0	3.0	95.0	0.3	--
4.	4.5	--	14.0	--	--	14.0	2.0	10.0	0.2	2.7
5.	4.7	--	15.0	--	--	34.0	3.0	80.0	0.5	3.7
6.	4.7	--	22.0	--	--	20.0	3.0	82.0	0.1	4.5
7.	4.6	--	7.0	14.0	7.0	--	2.0	25.0	0.2	4.2
8.	4.7	--	20.0	--	--	42.0	3.0	40.0	0.3	6.0
9.	4.5	9.7	22.0	--	--	33.0	3.0	7.0	0.2	6.2
10.	4.6	--	36.0	--	--	52.0	3.0	2.0	0.3	7.6
11.	4.5	10.3	30.0	--	--	42.0	3.0	0.0	0.2	7.5
12.	4.7	9.9	20.0	--	--	40.0	3.0	2.0	0.1	.6
13.	14.2	--	24.0	--	--	64.0	4.0	98.0	0.4	5.0
14.	4.6	--	31.0	17.0	22.0	--	3.0	10.0	0.1	4.5
15.	4.6	15.1	39.0	--	--	32.0	4.0	5.0	0.3	10.3
16.	4.5	--	11.0	--	--	16.0	3.0	40.0	0.1	11.0
17.	4.5	13.0	23.0	--	--	34.0	3.0	5.0	0.1	4.0
18.	4.4	10.6	22.0	--	--	30.0	3.0	2.0	0.2	8.3
19.	4.7	9.8	10.0	20.0	9.0	--	3.0	80.0	0.1	7.6
20.	4.7	--	15.0	33.0	14.0	--	3.0	75.0	0.3	5.5

ARTEMISIA TRIDENTATA

Study Area FarsonDate 21 April 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	1.2	---	---	---	---	---	---	---	---	---	
2.	17.0	---	---	---	---	---	---	---	---	---	
3.	17.0	---	---	---	---	---	---	---	---	---	
4.	1.2	---	---	---	---	---	---	---	---	---	
5.	17.0	---	---	---	---	---	---	---	---	---	
6.	1.2	---	---	---	---	---	---	---	---	---	
7.	17.0	---	---	---	---	---	---	---	---	---	
8.	1.3	---	---	---	---	---	---	---	---	---	
9.	1.3	---	---	---	---	---	---	---	---	---	
10.	1.3	---	---	---	---	---	---	---	---	---	
11.	1.2	---	---	---	---	---	---	---	---	---	
12.	1.3	---	---	---	---	---	---	---	---	---	
13.	17.0	---	---	---	---	---	---	---	---	---	
14.	17.0	---	---	---	---	---	---	---	---	---	
15.	17.0	---	---	---	---	---	---	---	---	---	
16.	17.0	---	---	---	---	---	---	---	---	---	
17.	17.0	---	---	---	---	---	---	---	---	---	
18.	17.0	---	---	---	---	---	---	---	---	---	
19.	17.0	---	---	---	---	---	---	---	---	---	
20.	1.2	---	---	---	---	---	---	---	---	---	

ARTEMISIA TRIDENTATA

Study Area Farson

Date 18 May 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	2.1	--	18.0	--	--	24.0	3.0	12.0	--	--	
2.	1.5	--	9.0	--	--	23.0	3.0	10.0	--	--	
3.	1.7	--	31.0	--	--	50.0	4.0	18.0	--	--	
4.	1.6	--	16.0	--	--	11.0	3.0	22.0	--	--	
5.	1.2	--	29.0	--	--	41.0	4.0	55.0	--	--	
6.	1.6	--	29.0	--	--	26.0	4.0	9.0	--	--	
7.	1.9	--	13.0	--	--	20.0	2.0	10.0	--	--	
8.	1.2	--	25.0	--	--	53.0	4.0	6.0	--	--	
9.	2.0	--	17.0	--	--	20.0	3.0	2.0	--	--	
10.	2.1	--	16.0	--	--	22.0	4.0	35.0	--	--	
11.	2.2	--	29.0	--	--	51.0	4.0	5.0	--	--	
12.	2.3	--	30.0	--	--	43.0	4.0	3.0	--	--	
13.	1.2	--	15.0	--	--	25.0	4.0	5.0	--	--	
14.	2.4	--	18.0	--	--	34.0	3.0	5.0	--	--	
15.	1.1	--	7.0	--	--	20.0	3.0	5.0	--	--	
16.	2.1	--	12.0	--	--	10.0	2.0	5.0	--	--	
17.	17.0	--	19.0	--	--	32.0	3.0	4.0	--	--	
18.	17.0	--	19.0	--	--	41.0	4.0	55.0	--	--	
19.	17.0	--	16.0	--	--	32.0	3.0	12.0	--	--	
20.	2.1	--	15.0	--	--	32.0	3.0	5.0	--	--	

ARTEMISIA TRIDENTATA

Study Area Farson

Date 7 June 1977

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PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	2.2	--	18.0	--	--	24.0	3	12	--	--	
2.	1.7	--	9.0	--	--	23.0	3	10	--	--	
3.	1.6	--	31.0	--	--	50.0	4	18	--	--	
4.	2.1	--	16.0	--	--	11.0	3	22	--	--	
5.	1.2	--	29.0	--	--	41.0	4	55	--	--	
6.	2.2	--	29.0	--	--	26.0	4	9	--	--	
7.	2.3	--	13.0	--	--	20.0	2	10	--	--	
8.	2.2	--	25.0	--	--	53.0	4	6	--	--	
9.	2.2	--	17.0	--	--	20.0	3	2	--	--	
10.	2.1	--	16.0	--	--	22.0	4	35	--	--	
11.	2.3	--	29.0	--	--	51.0	4	5	--	--	
12.	2.5	--	30.0	--	--	43.0	4	3	--	--	
13.	1.7	--	15.0	--	--	25.0	4	5	--	--	
14.	2.4	--	18.0	--	--	34.0	3	5	--	--	
15.	1.4	--	7.0	--	--	20.0	3	5	--	--	
16.	2.1	--	12.0	--	--	10.0	2	5	--	--	
17.	2.1	--	19.0	--	--	32.0	3	4	--	--	
18.	2.1	--	19.0	--	--	41.0	4	55	--	--	
19.	2.1	--	16.0	--	--	32.0	3	12	--	--	
20.	2.1	--	15.0	--	--	32.0	3	5	--	--	

ARTEMISIA TRIDENTATA

Study Area FarsonDate 28 June 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	STAGE	SCORE									
	VEG.	REPR.	cm	cm	cm	cm					
1.	2.3	--	18.0	--	--	24.0	3	12	--	--	
2.	2.2	--	9.0	--	--	23.0	3	10	--	--	
3.	2.3	--	31.0	--	--	50.0	4	18	--	--	
4.	2.2	--	16.0	--	--	11.0	3	22	--	--	
5.	2.0	--	29.0	--	--	41.0	4	55	--	--	
6.	2.3	--	29.0	--	--	26.0	4	9	--	--	
7.	2.4	--	13.0	--	--	20.0	2	10	--	--	
8.	2.3	--	25.0	--	--	53.0	4	6	--	--	
9.	2.3	--	17.0	--	--	20.0	3	2	--	--	
10.	2.2	--	16.0	--	--	22.0	4	35	--	--	
11.	2.4	--	29.0	--	--	51.0	4	5	--	--	
12.	2.4	--	30.0	--	--	43.0	4	3	--	--	
13.	2.3	--	15.0	--	--	25.0	4	5	--	--	
14.	2.2	--	18.0	--	--	34.0	3	5	--	--	
15.	2.1	--	7.0	--	--	20.0	3	5	--	--	
16.	2.2	--	12.0	--	--	10.0	2	5	--	--	
17.	2.1	--	19.0	--	--	32.0	3	4	--	--	
18.	2.2	--	19.0	--	--	41.0	4	55	--	--	
19.	2.2	--	16.0	--	--	32.0	3	12	--	--	
20.	2.3	--	15.0	--	--	32.0	3	5	--	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	2.3	---	18.0	--	--	24.0	3	12	---	---	
2.	2.2	---	9.0	--	--	23.0	3	10	---	---	
3.	2.3	---	31.0	---	---	50.0	4	18	---	---	
4.	2.2	---	16.0	--	--	11.0	3	22	---	---	
5.	2.3	---	29.0	--	---	41.0	4	55	---	---	
6.	2.3	--	29.0	--	--	26.0	4	9	---	---	
7.	2.2	---	13.0	--	--	20.0	2	10	---	---	
8.	2.2	---	25.0	--	--	53.0	4	6	---	---	
9.	2.2	---	17.0	--	---	20.0	3	2	---	---	
10.	2.2	---	16.0	---	---	22.0	4	35	---	---	
11.	2.3	---	29.0	---	---	51.0	4	5	---	---	
12.	2.4	---	30.0	---	---	43.0	4	3	---	---	
13.	2.2	---	15.0	--	--	25.0	4	5	---	---	
14.	2.3	---	18.0	--	--	34.0	3	5	---	---	
15.	2.2	--	7.0	--	--	20.0	3	5	---	---	
16.	2.2	---	12.0	--	---	10.0	2	5	---	---	
17.	2.2	---	19.0	--	---	32.0	3	4	---	---	
18.	2.1	---	19.0	---	---	41.0	4	55	---	---	
19.	2.1	---	16.0	--	---	32.0	3	12	---	---	
20.	2.2	---	15.0	--	--	32.0	3	5	---	---	

ARTEMISIA TRIDENTATA

Study Area FarsonDate 10 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.7	--	18.0	--	--	24.0	3	12	--	--	
2.	3.6	--	9.0	--	--	23.0	3	10	--	--	
3.	3.8	--	31.0	--	--	50.0	4	18	--	--	
4.	3.7	--	16.0	--	--	11.0	3	22	--	--	
5.	3.7	--	29.0	--	--	41.0	4	55	--	--	
6.	3.7	--	29.0	--	--	26.0	4	9	--	--	
7.	3.8	--	13.0	--	--	20.0	2	10	--	--	
8.	2.8	--	25.0	--	--	53.0	4	6	--	--	
9.	3.8	--	17.0	--	--	20.0	3	2	--	--	
10.	3.7	--	16.0	--	--	22.0	4	35	--	--	
11.	3.8	--	29.0	--	--	51.0	4	5	--	--	
12.	3.8	--	30.0	--	--	43.0	4	3	--	--	
13.	3.8	--	15.0	--	--	25.0	4	5	--	--	
14.	3.9	5.2	18.0	--	--	34.0	3	5	--	1.7	
15.	3.7	--	7.0	--	--	20.0	3	5	--	--	
16.	3.8	--	12.0	--	--	10.0	2	5	--	--	
17.	3.8	5.0	19.0	--	--	32.0	3	4	--	0.3	
18.	3.8	--	19.0	--	--	41.0	4	55	--	--	
19.	3.7	--	16.0	--	--	32.0	3	12	--	--	
20.	3.7	--	15.0	--	--	32.0	3	15	--	--	

ARTEMISIA TRIDENTATA

Study Area FarsonDate 7 September 1977

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PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.	cm	cm	cm	cm					
1.	4.2	--	19.0	--	--	16.0	3	12.0	0.1	--	
2.	4.2	--	9.0	--	--	23.0	3	20.0	0.1	--	
3.	4.1	--	35.0	--	--	53.0	3	10.0	0.1	--	
4.	4.2	--	19.0	--	--	14.0	2	20.0	0.1	--	
5.	4.1	--	30.0	--	--	40.0	3	45.0	0.2	--	
6.	4.3	--	27.0	--	--	30.0	3	15.0	0.1	--	
7.	4.2	--	13.0	--	--	10.0	2	5.0	0.1	--	
8.	4.2	--	28.0	53.0	16.0	--	3	2.0	0.1	--	
9.	4.2	--	16.0	40.0	15.0	--	3	0.0	0.1	--	
10.	4.3	--	15.0	--	--	18.0	3	38.0	0.1	--	
11.	4.3	--	28.0	--	--	40.0	3	3.0	0.1	--	
12.	4.2	5.8	22.0	--	--	40.0	3	1.0	0.1	0.4	
13.	4.2	--	19.0	38.0	15.0	--	3	2.0	0.1	--	
14.	4.3	7.3	20.0	--	--	22.0	2	20.0	0.1	1.1	(Veg. may
15.	4.3	--	17.0	--	--	10.0	2	2.0	0.1	--	be 3.9)
16.	4.2	--	10.0	--	--	16.0	2	0.0	0.1	--	No H ₂ O
17.	4.2	--	18.0	--	--	30.0	3	2.0	0.1	--	
18.	4.1	--	17.0	--	--	40.0	3	65.0	0.05	--	
19.	4.1	--	19.0	--	--	30.0	3	70.0	0.1	--	
20.	4.2	--	11.0	--	--	14.0	2	12.0	0.1	--	

ARTEMISIA TRIDENTATA

Study Area Farson

Date 6 November 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	STAGE	SCORE								
	VEG.	REPR.	cm	cm	cm	cm				
1.	4.9	---	19.0	---	---	16.0	3	12	0.1	---
2.	4.9	---	9.0	---	---	23.0	3	20	0.1	---
3.	4.8	---	35.0	---	---	53.0	3	10	0.1	---
4.	4.9	---	19.0	---	---	14.0	2	20	0.1	---
5.	14.0	---	30.0	---	---	40.0	3	45	0.2	---
6.	4.8	---	27.0	---	---	30.0	3	15	0.1	---
7.	14.0	---	13.0	---	---	10.0	2	5	0.1	---
8.	14.0	---	28.0	53.0	16.0	---	3	2	0.1	---
9.	4.9	---	16.0	40.0	15.0	---	3	0	0.1	---
10.	14.0	---	15.0	---	---	18.0	3	38	0.1	---
11.	4.9	5.7	28.0	---	---	40.0	3	3	0.1	---
12.	4.9	6.5	22.0	---	---	40.0	3	1	0.1	4
13.	14.1	---	19.0	38.0	15.0	---	3	2	0.1	---
14.	4.8	8.8	20.0	---	---	22.0	2	20	0.1	1.1
15.	14.0	---	17.0	---	---	10.0	2	2	0.1	---
16.	14.1	---	10.0	---	---	16.0	2	0	0.1	---
17.	14.1	5.1	18.0	---	---	30.0	3	2	0.1	---
18.	4.9	---	17.0	---	---	40.0	3	65	0.05	---
19.	14.1	---	19.0	---	---	30.0	3	70	0.1	---
20.	14.2	---	11.0	---	---	14.0	2	12	0.1	---

ARTEMISIA TRIDENTATA

Study Area Horsecreek

Date 23 April 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	2.3	---	---	---	---	---	---	---	---	---	
2.	2.7	---	---	---	---	---	---	---	---	---	
3.	2.1	---	---	---	---	---	---	---	---	---	(Repl.)
4.	2.3	---	---	---	---	---	---	---	---	---	
5.	2.2	---	---	---	---	---	---	---	---	---	
6.	2.3	---	---	---	---	---	---	---	---	---	
7.	2.4	---	---	---	---	---	---	---	---	---	
8.	1.8	---	---	---	---	---	---	---	---	---	
9.	2.0	---	---	---	---	---	---	---	---	---	
10.	2.1	---	---	---	---	---	---	---	---	---	(Repl.)
11.	2.4	---	---	---	---	---	---	---	---	---	
12.	1.6	---	---	---	---	---	---	---	---	---	
13.	2.2	---	---	---	---	---	---	---	---	---	
14.	1.8	---	---	---	---	---	---	---	---	---	
15.	2.3	---	---	---	---	---	---	---	---	---	
16.	2.3	---	---	---	---	---	---	---	---	---	
17.	2.3	---	---	---	---	---	---	---	---	---	
18.	1.4	---	---	---	---	---	---	---	---	---	
19.	2.3	---	---	---	---	---	---	---	---	---	
20.	2.1	---	---	---	---	---	---	---	---	---	

ARTEMISIA TRIDENTATA

Study Area HorsecreekDate 17 May 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.2	--	16.0	--	--	74.0	5	70	--	--	
2.	3.3	--	23.0	--	--	55.0	5	60	--	--	
3.	3.4	--	39.0	--	--	54.0	4	12	--	--	
4.	3.4	--	58.0	--	--	54.0	4	12	--	--	
5.	3.2	--	13.0	--	--	8.0	1	0	--	--	
6.	3.0	--	15.0	--	--	12.0	2	30	--	--	
7.	3.2	--	53.0	--	--	40.0	4	20	--	--	
8.	2.6	--	7.0	--	--	9.0	3	15	--	--	
9.	2.5	--	27.0	--	--	44.0	4	50	--	--	
10.	3.4	--	27.0	--	--	25.0	3	25	--	--	
11.	3.3	--	15.0	--	--	21.0	3	5	--	--	
12.	3.2	--	16.0	--	--	15.0	3	10	--	--	
13.	3.4	--	20.0	--	--	15.0	2	5	--	--	
14.	3.3	--	34.0	--	--	36.0	4	65	--	--	
15.	3.0	--	23.0	--	--	17.0	1	0	--	--	
16.	3.3	--	43.0	--	--	28.0	4	7	--	--	
17.	3.2	--	50.5	--	--	66.0	5	90	--	--	
18.	2.7	--	25.0	--	--	36.0	5	95	--	--	
19.	3.3	--	10.0	--	--	16.0	3	65	--	--	
20.	3.3	--	17.0	--	--	54.0	5	85	--	--	

ARTEMISIA TRIDENTATA

Study Area Horsecreek

Date 9 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNGTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm
	VEG.	REPR.								
1.	3.5	5.3	16.0	--	--	74.0	5	70	--	8.4
2.	3.4	5.0	23.0	--	--	55.0	5	60	--	6.2
3.	3.4	5.1	39.0	--	--	54.0	4	12	--	5.8
4.	3.7	5.3	58.0	--	--	54.0	4	12	--	7.3
5.	3.3	5.0	13.0	--	--	8.0	1	0	--	6.7
6.	3.5	--	15.0	--	--	12.0	2	30	--	--
7.	3.4	5.2	53.0	--	--	40.0	4	20	--	4.5
8.	3.2	--	7.0	--	--	9.0	3	15	--	--
9.	3.3	--	27.0	--	--	44.0	4	50	--	--
10.	3.5	--	27.0	--	--	25.0	3	25	--	--
11.	3.4	5.1	15.0	--	--	21.0	3	5	--	8.5
12.	3.3	5.0	16.0	--	--	15.0	3	10	--	5.2
13.	3.5	--	20.0	--	--	15.0	2	5	--	--
14.	3.3	5.1	34.0	--	--	36.0	4	65	--	6.0
15.	3.5	--	23.0	--	--	17.0	1	0	--	--
16.	3.6	5.4	43.0	--	--	28.0	4	7	--	13.4
17.	3.5	5.2	50.5	--	--	66.0	5	90	--	6.2
18.	3.3	5.0	25.0	--	--	36.0	5	95	--	5.8
19.	3.3	--	10.0	--	--	16.0	3	65	--	--
20.	3.5	--	17.0	--	--	54.0	5	85	--	--

ARTEMISIA TRIDENTATA

Study Area Horsecreek

Date 30 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	(Gen: lvs browning)
	VEG.	REPR.									
1.	3.5	5.6	16.0	--	--	74.0	5	70	--	9.3	
2.	3.4	5.3	23.0	--	--	55.0	5	60	--	8.5	(Dying)
3.	3.3	5.5	39.0	--	--	54.0	4	12	--	8.2	
4.	3.6	5.4	58.0	--	--	54.0	4	12	--	6.4	
5.	3.5	5.2	13.0	--	--	8.0	1	0	--	7.2	
6.	3.5	--	15.0	--	--	12.0	2	30	--	--	
7.	3.4	5.2	53.0	--	--	40.0	4	20	--	4.0	
8.	3.2	--	7.0	--	--	9.0	3	15	--	--	
9.	3.4	--	27.0	--	--	44.0	4	50	--	--	(Dying)
10.	3.6	--	27.0	--	--	25.0	3	25	--	--	
11.	3.5	5.5	15.0	--	--	21.0	3	5	--	8.3	
12.	3.5	5.6	16.0	--	--	15.0	3	10	--	8.5	
13.	3.5	--	20.0	--	--	15.0	2	5	--	--	
14.	3.4	5.4	34.0	--	--	36.0	4	65	--	6.5	
15.	3.5	--	23.0	--	--	17.0	1	0	--	--	
16.	3.5	5.4	43.0	--	--	28.0	4	7	--	11.0	
17.	3.5	5.2	50.5	--	--	66.0	5	90	--	7.4	
18.	3.4	5.2	25.0	--	--	36.0	5	95	--	6.4	
19.	3.3	--	10.0	--	--	16.0	3	65	--	--	
20.	3.5	--	17.0	--	--	54.0	5	85	--	--	

ARTEMISIA TRIDENTATA

Study Area HorsecreekDate 20 July 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm
	VEG.	REPR.								
1.	3.7	5.5	16.0	--	--	74.0	5	70	--	9.0
2.	3.8	5.6	23.0	--	--	55.0	5	60	--	7.5
3.	3.7	5.6	39.0	--	--	54.0	4	12	--	9.0
4.	3.8	5.5	58.0	--	--	54.0	4	12	--	6.5
5.	3.6	5.6	13.0	--	--	8.0	1	0	--	7.5
6.	3.5	--	15.0	--	--	12.0	2	30	--	--
7.	3.6	5.5	53.0	--	--	40.0	4	20	--	4.5
8.	3.6	--	7.0	--	--	9.0	3	15	--	--
9.	3.6	--	27.0	--	--	44.0	4	50	--	--
10.	3.6	--	27.0	--	--	25.0	3	25	--	--
11.	3.7	5.7	15.0	--	--	21.0	3	5	--	8.5
12.	3.6	5.6	16.0	--	--	15.0	3	10	--	12.5
13.	3.7	--	20.0	--	--	15.0	2	5	--	--
14.	3.7	5.6	34.0	--	--	36.0	4	65	--	8.0
15.	3.7	--	23.0	--	--	17.0	1	0	--	--
16.	3.7	5.7	43.0	--	--	28.0	4	7	--	16.5
17.	3.7	5.6	50.5	--	--	66.0	5	90	--	7.0
18.	3.6	5.5	25.0	--	--	36.0	5	95	--	6.0
19.	3.5	--	10.0	--	--	16.0	3	65	--	--
20.	3.7	--	17.0	--	--	54.0	5	85	--	--

ARTEMISIA TRIDENTATA

Study Area Horsecreek

Date 11 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	3.8	5.6	16.0	--	--	74.0	5	70	--	10.0
2.	3.9	5.6	23.0	--	--	55.0	5	60	--	9.0
3.	3.9	5.6	39.0	--	--	54.0	4	12	--	5.5
4.	3.9	5.6	58.0	--	--	54.0	4	12	--	6.5
5.	3.6	5.6	13.0	--	--	8.0	1	0	--	4.0
6.	3.7	--	15.0	--	--	12.0	2	30	--	--
7.	3.6	5.3	53.0	--	--	40.0	4	20	--	4.8
8.	3.6	--	7.0	--	--	9.0	3	15	--	--
9.	3.6	--	27.0	--	--	44.0	4	50	--	--
10.	3.8	--	27.0	--	--	25.0	3	25	--	--
11.	3.8	5.6	15.0	--	--	21.0	3	5	--	11.5
12.	3.8	5.6	16.0	--	--	15.0	3	10	--	8.5
13.	3.8	--	20.0	--	--	15.0	2	5	--	--
14.	3.8	5.5	34.0	--	--	36.0	4	65	--	7.2
15.	3.8	--	23.0	--	--	17.0	1	0	--	--
16.	3.9	5.6	43.0	--	--	28.0	4	7	--	10.2
17.	3.8	5.7	50.5	--	--	66.0	5	90	--	6.8
18.	3.7	5.5	25.0	--	--	36.0	5	95	--	6.5
19.	3.6	--	10.0	--	--	16.0	3	65	--	--
20.	3.7	--	17.0	--	--	54.0	5	85	--	--

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	4.5	9.8	54.0	--	--	60.0	4	97	0.4	8.7	
2.	4.0	9.8	20.0	60.0	30.0	--	4	95	0.5	8.5	
3.	4.3	9.8	38.0	40.0	25.0	--	3	4	0.3	4.8	
4.	4.3	N.F.	55.0	--	--	40.0	3	10	0.2	7.2	
5.	4.4	9.8	13.0	--	--	7.0	2	0	0.3	7.0	
6.	4.2	--	12.0	--	--	13.0	3	25	0.5	--	
7.	4.3	9.8	45.0	76.0	25.0	--	4	45	0.5	3.7	
8.	4.5	--	40.0	--	--	35.0	--	--	0.4	--	
9.	4.7	--	35.0	60.0	20.0	--	4	87	0.1	--	
10.	4.5	--	15.0	--	--	20.0	--	--	0.3	--	
11.	4.5	10.3	20.0	30.0	15.0	--	3	7	1.4	10.0	
12.	4.5	11.4	10.0	--	--	14.0	3	15	0.3	9.0	
13.	4.7	--	18.0	--	--	12.0	3	7	0.4	--	
14.	4.7	N.F.	40.0	40.0	23.0	--	5	65	0.3	7.4	
15.	4.7	11.4	25.0	--	--	20.0	2	0	1.2	8.0	
16.	4.7	11.0	40.0	--	--	30.0	5	10	0.5	7.2	
17.	4.7	11.2	55.0	--	--	23.0	5	15	1.2	6.2	
18.	4.6	10.6	23.0	--	--	38.0	4	90	0.4	2.0	(Repl.) 95'7" R20"
19.	4.7	N.F.	--	--	--	70.0	5	25	0.2	3.4	(Dying)
20.	4.6	--	16.0	30.0	20.0	--	5	70	0.8	--	

ARTEMISIA TRIDENTATA

Study Area Mesa AntelopeDate 21 April 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HIGHT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm	
	VEG.	REPR.									
1.	1.4	--	18.0	--	--	--	--	--	--	--	
2.	1.3	--	27.0	--	--	--	--	--	--	--	
3.	1.2	--	30.0	--	--	--	--	--	--	--	
4.	17.0	--	15.0	--	--	--	--	--	--	--	
5.	1.4	--	27.0	--	--	--	--	--	--	--	
6.	1.4	--	26.5	--	--	--	--	--	--	--	
7.	17.0	--	21.2	--	--	--	--	--	--	--	
8.	17.0	--	25.0	--	--	--	--	--	--	--	
9.	17.0	--	19.0	--	--	--	--	--	--	--	
10.	1.2	--	17.0	--	--	--	--	--	--	--	
11.	17.0	--	10.5	--	--	--	--	--	--	--	
12.	1.2	--	24.0	--	--	--	--	--	--	--	
13.	17.0	--	22.5	--	--	--	--	--	--	--	
14.	17.0	--	24.0	--	--	--	--	--	--	--	
15.	1.1	--	14.0	--	--	--	--	--	--	--	
16.	17.0	--	17.5	--	--	--	--	--	--	--	
17.	17.0	--	14.0	--	--	--	--	--	--	--	
18.	17.0	--	17.5	--	--	--	--	--	--	--	
19.	1.2	--	22.0	--	--	--	--	--	--	--	
20.	17.0	--	14.0	--	--	--	--	--	--	--	

ARTEMISIA TRIDENTATA

Study Area Mesa AntelopeDate 18 May 1977

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PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	2.2	--	18.0	--	--	35.0	3	3	--	--	
2.	2.3	--	25.0	--	--	24.0	2	5	--	--	
3.	2.2	--	29.0	--	--	54.0	4	7	--	--	
4.	2.1	--	14.0	--	--	7.0	4	60	--	--	
5.	2.3	--	23.0	--	--	36.0	3	4	--	--	
6.	2.4	--	26.0	--	--	25.0	3	0	--	--	
7.	2.2	--	20.0	--	--	28.0	3	0	--	--	
8.	2.2	--	26.0	--	--	12.0	2	0	--	--	
9.	2.3	--	21.0	--	--	26.0	3	4	--	--	
10.	2.4	--	17.0	--	--	15.0	2	2	--	--	
11.	2.6	--	11.0	--	--	16.0	2	18	--	--	
12.	2.2	--	23.0	--	--	42.0	4	10	--	--	
13.	2.2	--	24.0	--	--	33.0	3	7	--	--	
14.	2.6	--	28.0	--	--	53.0	4	12	--	--	
15.	2.5	--	12.0	--	--	16.0	2	5	--	--	
16.	2.4	--	16.0	--	--	25.0	2	7	--	--	
17.	2.6	--	17.0	--	--	40.0	3	15	--	--	
18.	2.2	--	17.0	--	--	26.0	2	4	--	--	
19.	2.2	--	22.0	--	--	43.0	4	7	--	--	
20.	2.7	--	16.0	--	--	13.0	1	30	--	--	

ARTEMISIA TRIDENTATA

Study Area Mesa Antelope

Date 7 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH cm	
	VEG.	REPR.									
1.	3.2	--	18.0	--	--	35.0	3	3	--	--	
2.	3.2	5.0	25.0	--	--	24.0	2	5	--	2.0	
3.	3.1	5.0	29.0	--	--	54.0	4	7	--	2.4	
4.	3.1	--	14.0	--	--	7.0	4	60	--	--	
5.	3.3	5.0	23.0	--	--	36.0	3	4	--	2.2	
6.	3.3	--	26.0	--	--	25.0	3	0	--	--	
7.	3.1	5.0	20.0	--	--	28.0	3	0	--	.9	
8.	3.1	--	26.0	--	--	12.0	2	0	--	--	
9.	3.2	5.0	21.0	--	--	26.0	3	4	--	1.3	
10.	3.1	--	17.0	--	--	15.0	2	2	--	--	
11.	3.1	--	11.0	--	--	16.0	2	18	--	--	
12.	3.3	--	23.0	--	--	42.0	4	10	--	--	
13.	3.0	--	24.0	--	--	33.0	3	7	--	--	
14.	3.1	--	28.0	--	--	53.0	4	12	--	--	
15.	2.9	--	12.0	--	--	16.0	2	5	--	--	
16.	3.1	--	16.0	--	--	25.0	2	7	--	--	
17.	3.1	--	17.0	--	--	40.0	3	15	--	--	
18.	3.1	--	17.0	--	--	26.0	2	4	--	--	
19.	3.2	5.0	22.0	--	--	43.0	4	7	--	1.6	
20.	3.1	--	16.0	--	--	13.0	1	30	--	--	

ARTEMISIA TRIDENTATA

Study Area Mesa Antelope

Date 28 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.4	--	18.0	--	--	35.0	3	3	--	--	
2.	3.4	5.2	25.0	--	--	24.0	2	5	--	2.5	
3.	3.4	5.2	29.0	--	--	54.0	4	7	--	2.5	
4.	3.2	--	14.0	--	--	7.0	4	60	--	--	Little elongation
5.	3.4	5.3	23.0	--	--	36.0	3	4	--	3.4	& leaves drying
6.	3.6	5.3	26.0	--	--	25.0	3	0	--	3.4	
7.	3.3	5.2	20.0	--	--	28.0	3	0	--	1.8	
8.	3.2	--	26.0	--	--	12.0	2	0	--	--	
9.	3.4	5.2	21.0	--	--	26.0	3	4	--	1.8	
10.	3.4	--	17.0	--	--	15.0	2	2	--	--	
11.	3.5	--	11.0	--	--	16.0	2	18	--	--	
12.	3.5	5.2	23.0	--	--	42.0	4	10	--	3.1	
13.	3.2	--	24.0	--	--	33.0	3	7	--	--	
14.	3.3	--	28.0	--	--	53.0	4	12	--	--	
15.	3.3	--	12.0	--	--	16.0	2	5	--	--	
16.	3.3	--	16.0	--	--	25.0	2	7	--	--	
17.	3.5	--	17.0	--	--	40.0	3	15	--	--	
18.	3.2	--	17.0	--	--	26.0	2	4	--	--	
19.	3.5	--	22.0	--	--	43.0	4	7	--	--	
20.	3.5	--	16.0	--	--	13.0	1	30	--	--	

ARTEMISIA TRIDENTATA

Study Area Mesa AntelopeDate 20 July 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm	
	STAGE	SCORE									
	VEG.	REPR.	cm	cm	cm	cm					
1.	3.4	--	18.0	--	--	35.0	3	3	--	--	
2.	3.4	5.2	25.0	--	--	24.0	2	5	--	2.5	
3.	3.5	5.2	29.0	--	--	54.0	4	7	--	4.0	
4.	3.4	--	14.0	--	--	7.0	4	60	--	--	
5.	3.6	5.2	23.0	--	--	36.0	3	4	--	4.0	
6.	3.6	5.3	26.0	--	--	25.0	3	0	--	7.0	
7.	3.4	5.2	20.0	--	--	28.0	3	0	--	3.0	
8.	3.3	--	26.0	--	--	12.0	2	0	--	--	
9.	3.4	5.1	21.0	--	--	26.0	3	4	--	2.0	
10.	3.4	--	17.0	--	--	15.0	2	2	--	--	
11.	3.4	--	11.0	--	--	16.0	2	18	--	--	
12.	3.5	5.2	23.0	--	--	42.0	4	10	--	3.3	
13.	3.4	--	24.0	--	--	33.0	3	7	--	--	
14.	3.5	5.3	28.0	--	--	53.0	4	12	--	3.8	
15.	3.4	--	12.0	--	--	16.0	2	5	--	--	
16.	3.4	--	16.0	--	--	25.0	2	7	--	--	
17.	3.5	--	17.0	--	--	40.0	3	15	--	--	
18.	3.4	--	17.0	--	--	26.0	2	4	--	--	
19.	3.5	5.1	22.0	--	--	43.0	4	7	--	3.0	
20.	3.5	--	16.0	--	--	13.0	1	30	--	--	

ARTEMISIA TRIDENTATA

Study Area Mesa AntelopeDate 9 August 1977

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PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.9	5.9	18.0	--	--	35.0	3	3	--	2.5	
2.	3.8	5.7	25.0	--	--	24.0	2	5	--	3.1	
3.	3.8	6.1	29.0	--	--	54.0	4	7	--	4.2	
4.	4.0	--	14.0	--	--	7.0	4	60	--	--	
5.	3.9	5.8	23.0	--	--	36.0	3	4	--	3.0	
6.	3.9	5.9	26.0	--	--	25.0	3	0	--	7.5	
7.	3.7	5.8	20.0	--	--	28.0	3	0	--	2.7	
8.	4.4	--	26.0	--	--	12.0	2	0	--	--	
9.	4.0	6.1	21.0	--	--	26.0	3	4	--	1.5	
10.	4.4	--	17.0	--	--	15.0	2	2	--	--	
11.	3.9	--	11.0	--	--	16.0	2	18	--	--	
12.	4.0	6.0	23.0	--	--	42.0	4	10	--	3.4	
13.	4.2	5.8	24.0	--	--	33.0	3	7	--	2.5	
14.	4.2	5.8	28.0	--	--	53.0	4	12	--	4.0	
15.	4.0	--	12.0	--	--	16.0	2	5	--	--	
16.	4.0	--	16.0	--	--	25.0	2	7	--	--	
17.	3.9	--	17.0	--	--	40.0	3	15	--	--	
18.	3.9	5.7	17.0	--	--	26.0	2	4	--	--	
19.	3.9	5.7	22.0	--	--	43.0	4	7	--	3.3	
20.	3.9	--	16.0	--	--	13.0	1	30	--	--	

ARTEMISIA TRIDENTATA

Study Area Mesa Antelope

Date 7 September 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.9	8.4	16.0	--	--	24.0	3	2	0.1	2.5	
2.	4.0	7.8	23.0	--	--	24.0	3	4	0.2	2.3	
3.	4.3	9.1	27.0	--	--	33.0	3	8	0.4	2.7	
4.	3.8	--	12.0	--	--	13.0	4	47	0.1	--	
5.	4.4	8.8	13.0	--	--	18.0	2	2	0.1	3.4	
6.	3.8	9.1	23.0	--	--	22.0	2	3	0.5	3.3	
7.	3.9	8.7	17.0	--	--	30.0	2	1	0.1	2.0	
8.	4.0	--	26.0	--	--	9.0	2	0	0.1	--	
9.	3.9	8.5	26.0	--	--	20.0	3	2	0.1	1.5	
10.	3.9	--	18.0	--	--	12.0	2	2	0.1	--	
11.	4.0	--	10.0	--	--	10.0	2	30	0.1	--	
12.	3.9	8.0	24.0	--	--	30.0	3	20	0.5	3.6	
13.	4.2	7.9	20.0	--	--	12.0	3	2	0.1	2.5	
14.	3.9	7.9	24.0	--	--	29.0	4	30	0.1	4.0	
15.	4.4	--	9.0	--	--	10.0	2	14	0.1	--	
16.	4.1	--	16.0	--	--	20.0	3	2	0.1	--	
17.	4.2	--	13.0	--	--	30.0	3	14	0.2	--	
18.	4.0	--	17.0	--	--	12.0	2	1	0.1	--	
19.	4.0	8.0	25.0	--	--	36.0	3	2	0.7	2.5	
20.	4.3	--	15.0	--	--	10.0	2	25	0.1	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm	
	VEG.	REPR.									
1.	14.0	15.5	16.0	--	--	24.0	3	2	--	--	
2.	4.9	15.5	23.0	--	--	24.0	3	4	--	--	
3.	4.9	15.5	27.0	--	--	33.0	3	8	--	--	
4.	4.8	--	12.0	--	--	13.0	4	47	--	--	
5.	4.9	15.4	13.0	--	--	18.0	2	2	--	--	
6.	4.9	15.5	23.0	--	--	22.0	2	3	--	--	
7.	14.1	15.4	17.0	--	--	30.0	2	1	--	--	
8.	4.9	--	26.0	--	--	9.0	2	0	--	--	
9.	4.9	15.5	26.0	--	--	20.0	3	2	--	--	
10.	4.9	--	18.0	--	--	12.0	2	2	--	--	
11.	4.9	--	10.0	--	--	10.0	2	30	--	--	
12.	14.0	15.6	24.0	--	--	30.0	3	20	--	--	
13.	14.0	15.5	20.0	--	--	12.0	3	2	--	--	
14.	4.9	15.5	24.0	--	--	29.0	4	30	--	--	
15.	4.9	--	9.0	--	--	10.0	2	14	--	--	
16.	4.9	--	16.0	--	--	20.0	3	2	--	--	
17.	14.0	--	13.0	--	--	30.0	3	14	--	--	
18.	4.9	--	17.0	--	--	12.0	2	1	--	--	
19.	4.8	15.5	25.0	--	--	36.0	3	2	--	--	
20.	4.9	--	15.0	--	--	10.0	2	25	--	--	

ARTEMISIA TRIDENTATA

Study Area Owl Draw

Date 17 April 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm	
	VEG.	REPR.									
1.	0.1	--	46.0	--	--	--	--	--	--	--	
2.	17.0	--	45.0	--	--	--	--	--	--	--	
3.	17.0	--	24.0	--	--	--	--	--	--	--	
4.	0.2	--	10.0	--	--	--	--	--	--	--	
5.	17.0	--	20.0	--	--	--	--	--	--	--	
6.	17.0	--	17.0	--	--	--	--	--	--	--	
7.	17.0	--	4.0	--	--	--	--	--	--	--	
8.	17.0	--	20.0	--	--	--	--	--	--	--	
9.	0.2	--	48.0	--	--	--	--	--	--	--	
10.	17.0	--	9.0	--	--	--	--	--	--	--	
11.	0.3	--	36.0	--	--	--	--	--	--	--	
12.	0.3	--	57.0	--	--	--	--	--	--	--	
13.	17.0	--	13.0	--	--	--	--	--	--	--	
14.	17.0	--	49.0	--	--	--	--	--	--	--	
15.	17.0	--	30.0	--	--	--	--	--	--	--	
16.	17.0	--	8.0	--	--	--	--	--	--	--	
17.	0.2	--	7.1	--	--	--	--	--	--	--	
18.	17.0	--	12.0	--	--	--	--	--	--	--	
19.	17.0	--	7.0	--	--	--	--	--	--	--	
20.	17.0	--	22.0	--	--	--	--	--	--	--	

ARTEMISIA TRIDENTATA

Study Area Owl DrawDate 16 May 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	3.4	-- 1	45.0	--	--	43.0	4	4	--	--
2.	2.4	--	42.0	--	--	33.0	4	7	--	--
3.	2.3	--	27.0	--	--	45.0	4	35	--	--
4.	2.4	--	8.5	--	--	18.0	2	30	--	--
5.	2.2	--	20.0	--	--	32.0	3	7	--	--
6.	2.6	--	24.0	--	--	21.0	3	4	--	--
7.	2.2	--	5.0	--	--	7.0	1	0	--	--
8.	2.6	--	19.0	--	--	20.0	2	0	--	--
9.	2.4	--	47.0	--	--	42.0	1	20	--	--
10.	2.4	--	9.0	--	--	7.0	1	20	--	--
11.	2.3	--	33.0	--	--	40.0	4	55	--	--
12.	2.3	--	59.0	--	--	55.0	4	7	--	--
13.	2.5	--	7.0	--	--	3.0	1	0	--	--
14.	2.5	--	47.0	--	--	44.0	4	4	--	--
15.	2.4	--	30.0	--	--	36.0	4	85	--	--
16.	2.5	--	9.0	--	--	7.0	1	0	--	--
17.	2.6	--	7.0	--	--	4.0	1	0	--	--
18.	2.6	--	12.0	--	--	20.0	2	10	--	--
19.	2.6	--	8.0	--	--	7.0	4	5	--	--
20.	2.6	--	19.0	--	--	32.0	4	15	--	--

ARTEMISIA TRIDENTATA

Study Area Owl Draw

Date 2 July 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	3.6	5.4	45.0	---	---	43.0	4	4	---	15.5
2.	3.5	5.3	42.0	---	---	33.0	4	7	---	8.0
3.	3.6	5.5	27.0	---	---	45.0	4	35	---	16.0
4.	3.5	---	8.5	---	---	18.0	2	30	---	---
5.	3.5	---	20.0	---	---	32.0	3	7	---	---
6.	3.5	5.4	24.0	---	---	21.0	3	4	---	8.0
7.	3.4	---	5.0	---	---	7.0	1	0	---	---
8.	3.3	---	19.0	---	---	20.0	2	0	---	---
9.	3.4	5.4	47.0	---	---	42.0	4	5	---	12.0
10.	3.3	---	9.0	---	---	7.0	1	20	---	---
11.	3.6	5.4	33.0	---	---	40.0	4	55	---	9.0
12.	3.6	5.5	59.0	---	---	55.0	4	7	---	19.0
13.	3.5	---	7.0	---	---	3.0	1	0	---	---
14.	3.5	5.4	47.0	---	---	44.0	4	4	---	11.0
15.	3.3	---	30.0	---	---	36.0	4	85	---	---
16.	3.4	---	9.0	---	---	7.0	1	0	---	---
17.	3.4	---	7.0	---	---	4.0	1	0	---	---
18.	3.4	---	12.0	---	---	20.0	2	10	---	---
19.	3.4	---	8.0	---	---	7.0	4	5	---	---
20.	3.5	---	19.0	---	---	32.0	4	15	---	---

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm
	VEG.	REPR.								
1.	3.6	5.6	45.0	--	--	43	4	4	--	16.0
2.	3.5	5.3	42.0	--	--	33	4	7	--	8.0
3.	3.7	5.6	27.0	--	--	45	4	35	--	18.0
4.	3.7	--	8.5	--	--	18	2	30	--	--
5.	3.6	--	20.0	--	--	32	3	7	--	--
6.	3.5	5.3	24.0	--	--	21	3	4	--	8.0
7.	3.4	--	5.0	--	--	7	1	0	--	--
8.	3.5	--	19.0	--	--	20	2	0	--	--
9.	3.7	5.5	47.0	--	--	42	4	5	--	13.0
10.	3.5	--	9	--	--	7	1	20	--	--
11.	3.7	5.6	33.0	--	--	40	4	55	--	10.0
12.	3.7	5.7	59.0	--	--	55	4	7	--	18.0
13.	3.7	--	7	--	--	3	1	0	--	--
14.	3.6	5.5	47.0	--	--	44	4	4	--	10.5
15.	3.6	--	30	--	--	36	4	85	--	--
16.	3.6	--	9	--	--	7	1	0	--	--
17.	3.6	--	7	--	--	4	1	0	--	--
18.	3.5	--	12.0	--	--	20	2	10	--	--
19.	3.5	--	8.0	--	--	7	4	5	--	--
20.	3.7	--	19.0	--	--	32	4	15	--	--

ARTEMISIA TRIDENTATA

Study Area Owl Draw

Date 12 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HIGHT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm
	VEG.	REPR.								
1.	3.8	5.9	45.0	--	--	43.0	4	4	--	13.1
2.	3.8	5.7	42.0	--	--	33.0	4	7	--	7.0
3.	3.8	5.8	27.0	--	--	45.0	4	35	--	17.0
4.	3.7	--	8.5	--	--	18.0	2	30	--	--
5.	3.7	--	20.0	--	--	32.0	3	7	--	--
6.	3.7	5.6	24.0	--	--	21.0	3	4	--	8.1
7.	3.5	--	5.0	--	--	7.0	1	0	--	--
8.	3.6	--	19.0	--	--	20.0	2	0	--	--
9.	3.9	5.8	47.0	--	--	42.0	4	5	--	12.9
10.	3.5	--	9.0	--	--	7.0	1	20	--	--
11.	3.9	5.9	33.0	--	--	40.0	4	55	--	11.0
12.	3.9	5.8	59.0	--	--	55.0	4	7	--	18.5
13.	3.7	--	7.0	--	--	3.0	1	0	--	--
14.	3.8	5.8	47.0	--	--	44.0	4	4	--	10.5
15.	3.6	--	30.0	--	--	36.0	4	85	--	--
16.	3.6	--	9.0	--	--	7.0	1	0	--	--
17.	3.6	--	7.0	--	--	4.0	1	0	--	--
18.	3.6	--	12.0	--	--	20.0	2	10	--	--
19.	3.5	--	8.0	--	--	7.0	4	5	--	--
20.	3.7	--	19.0	--	--	32.0	4	15	--	--

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH.	NEW SEED STALK LNTH.	
	VEG.	REPR.									
1.	4.3	8.5	48.0	--	--	54.0	4	0	4.5	--	
2.	4.4	9.1	46.0	60.0	43.0	--	4	10	3.0	--	
3.	4.3	9.2	24.0	99.0	66.0	--	5	55	2.0	--	
4.	4.4	--	13.0	20.0	14.0	--	2	45	4.0	--	
5.	4.4	--	20.0	50.0	31.0	--	3	10	3.0	--	
6.	4.3	8.7	27.0	--	--	30.0	3	15	2.0	--	
7.	4.5	--	5.0	--	--	9.0	2	10	1.0	--	
8.	4.4	--	21.0	--	--	27.0	3	5	2.0	--	
9.	4.4	9.2	48.0	--	--	64.0	4	5	3.5	--	
10.	4.5	--	12.0	--	--	8.0	2	5	0.6	--	
11.	4.4	8.7	59.0	--	--	88.0	4	15	4.0	--	
12.	4.3	9.3	62.0	93.0	53.0	--	4	5	5.0	--	
13.	4.4	--	9.0	--	--	4.0	2	50	5.0	--	
14.	4.5	9.4	49.0	--	--	70.0	4	5	2.5	--	
15.	--	--	--	--	--	--	--	--	--	--	(Died)
16.	4.4	--	10.0	--	--	9.0	2	0	2.0	--	
17.	4.4	--	8.0	--	--	6.0	2	5	1.5	--	
18.	4.5	--	13.0	29.0	12.0	--	2	35	1.5	--	
19.	4.6	--	8.0	10.0	3.0	--	2	45	1.5	--	
20.	4.4	--	21.0	54.0	42.0	--	5	50	2.0	--	

ARTEMISIA TRIDENTATA

Study Area Owl Draw

Date 17 November 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	4.9	15.5	48.0	--	--	54.0	4	0	--	--	
2.	4.9	13.9	46.0	60.0	43.0	--	4	10	--	--	
3.	14.1	15.4	24.0	99.0	66.0	--	5	55	--	--	
4.	14.0	--	13.0	20.0	14.0	--	2	45	--	--	
5.	14.1	--	20.0	50.0	31.0	--	3	10	--	--	
6.	14.1	15.3	27.0	--	--	30.0	3	15	--	--	
7.	14.1	--	5.0	--	--	9.0	2	10	--	--	
8.	14.1	--	21.0	--	--	27.0	3	5	--	--	
9.	14.0	15.2	48.0	--	--	64.0	4	5	--	--	
10.	14.3	--	12.0	--	--	8.0	2	5	--	--	
11.	4.9	15.3	59.0	--	--	88.0	4	15	--	--	
12.	4.9	15.5	62.0	93.0	53.0	--	4	5	--	--	
13.	4.9	--	9.0	--	--	4.0	2	50	--	--	
14.	4.9	15.3	49.0	--	--	70.0	4	5	--	--	
15.	14.1	--	--	--	--	--	--	--	--	--	
16.	14.0	--	10.0	--	--	9.0	2	0	--	--	
17.	14.0	--	8.0	--	--	6.0	2	5	--	--	
18.	4.9	--	13.0	29.0	12.0	--	2	35	--	--	
19.	14.1	--	8.0	10.0	3.0	--	2	45	--	--	
20.	14.2	--	21.0	54.0	42.0	--	5	50	--	--	

ARTEMISIA TRIDENTATA

Study Area Red Wash #2Date 20 April 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm	
	VEG.	REPR.									
1.	17.0	--	38.0	--	--	--	--	--	--	--	
2.	17.0	--	28.0	--	--	--	--	--	--	--	(New plant)
3.	17.0	--	40.0	--	--	--	--	--	--	--	
4.	17.0	--	32.0	--	--	--	--	--	--	--	
5.	17.0	--	27.0	--	--	--	--	--	--	--	
6.	17.0	--	17.0	--	--	--	--	--	--	--	
7.	17.0	--	32.0	--	--	--	--	--	--	--	
8.	17.0	--	23.0	--	--	--	--	--	--	--	
9.	17.0	--	25.0	--	--	--	--	--	--	--	
10.	17.0	--	28.0	--	--	--	--	--	--	--	
11.	17.0	--	15.0	--	--	--	--	--	--	--	(New plant)
12.	17.0	--	30.0	--	--	--	--	--	--	--	
13.	17.0	--	7.0	--	--	--	--	--	--	--	
14.	17.0	--	33.0	--	--	--	--	--	--	--	
15.	17.0	--	10.0	--	--	--	--	--	--	--	
16.	17.0	--	29.0	--	--	--	--	--	--	--	
17.	17.0	--	19.0	--	--	--	--	--	--	--	
18.	17.0	--	43.0	--	--	--	--	--	--	--	
19.	17.0	--	30.0	--	--	--	--	--	--	--	
20.	17.0	--	39.0	--	--	--	--	--	--	--	

ARTEMISIA TRIDENTATA

Study Area Red Wash #2

Date 20 May 1977

PLANT NO.	PHENO.		PLANT HIGHT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm
	STAGE	SCORE								
	VEG.	REPR.	cm	cm	cm	cm				
1.	2.5	--	37.0	--	--	42.0	4	10	--	--
2.	2.4	--	29.0	--	--	43.0	3	5	--	--
3.	2.6	--	41.0	--	--	84.0	4	5	--	--
4.	2.4	--	32.0	--	--	17.0	4	45	--	--
5.	2.7	--	24.0	--	--	25.0	3	15	--	--
6.	2.8	--	24.0	--	--	28.0	2	0	--	--
7.	2.4	--	38.0	--	--	34.0	4	5	--	--
8.	2.6	--	25.0	--	--	20.0	5	40	--	--
9.	2.5	--	16.0	--	--	36.0	4	10	--	--
10.	2.6	--	30.0	--	--	54.0	4	5	--	--
11.	2.7	--	17.0	--	--	15.0	5	40	--	--
12.	2.7	--	29.0	--	--	84.0	4	5	--	--
13.	2.8	--	8.0	--	--	9.0	2	5	--	--
14.	2.7	--	30.0	--	--	46.0	4	0	--	--
15.	2.5	--	11.0	--	--	13.0	5	75	--	--
16.	2.6	--	28.0	--	--	42.0	4	10	--	--
17.	2.5	--	19.0	--	--	38.0	5	15	--	--
18.	2.5	--	42.0	--	--	110.0	4	5	--	--
19.	2.6	--	32.0	--	--	41.0	5	35	--	--
20.	2.5	--	38.0	--	--	51.0	5	15	--	--

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.2	--	39.0	--	--	42.0	4	10	--	--	
2.	3.4	--	29.0	--	--	43.0	3	5	--	--	
3.	3.3	--	42.0	--	--	84.0	4	5	--	--	
4.	3.2	--	33.0	--	--	17.0	4	45	--	--	
5.	3.3	5.0	24.0	--	--	25.0	3	15	--	1.0	
6.	3.3	5.0	17.0	--	--	28.0	2	0	--	1.0	
7.	3.4	5.0	29.0	--	--	34.0	4	5	--	1.5	
8.	3.1	--	24.5	--	--	20.0	5	40	--	--	
9.	3.2	5.0	25.0	--	--	36.0	4	10	--	1.5	
10.	3.2	--	29.0	--	--	54.0	4	5	--	--	
11.	3.3	--	16.0	--	--	15.0	5	40	--	--	
12.	3.4	--	34.0	--	--	84.0	4	5	--	--	
13.	3.4	--	7.5	--	--	9.0	2	5	--	--	
14.	3.5	--	33.0	--	--	46.0	4	0	--	--	
15.	3.1	--	11.5	--	--	13.0	5	75	--	--	
16.	3.3	--	29.0	--	--	42.0	4	10	--	--	
17.	3.3	--	20.0	--	--	38.0	5	15	--	--	
18.	3.3	--	49.0	--	--	110.0	4	5	--	--	
19.	3.2	--	30.0	--	41.0	5	35	--	--		
20.	3.3	--	39.0	--	--	51.0	5	15	--	--	

ARTEMISIA TRIDENTATAStudy Area Red Wash #2Date 27 June 1977

PLANT NO.	PHENO.		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	STAGE	SCORE									
	VEG.	REPR.	cm	cm	cm	cm					
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
16.											
17.											
18.											
19.											
20.											

EST.

3.5

5.2

Individual plants not read

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.6	5.3	39.0	---	---	42.0	4	10	---	5.5	
2.	3.6	5.0	29.0	---	---	43.0	3	5	---	4.4	
3.	3.5	---	42.0	---	---	84.0	4	5	---	---	
4.	3.5	---	33.0	---	---	17.0	4	45	---	---	
5.	3.6	5.0	24.0	---	---	25.0	3	15	---	5.6	
6.	3.5	5.0	17.0	---	---	28.0	2	0	---	4.0	
7.	3.6	5.0	29.0	---	---	34.0	4	5	---	4.0	
8.	3.5	---	24.5	---	---	20.0	5	40	---	---	
9.	3.5	5.0	25.0	---	---	36.0	4	10	---	5.5	
10.	3.5	---	29.0	---	---	54.0	4	5	---	---	
11.	3.6	---	16.0	---	---	15.0	5	40	---	---	
12.	3.6	---	34.0	---	---	84.0	4	5	---	---	
13.	3.6	---	7.5	---	---	9.0	2	5	---	---	
14.	3.5	---	33.0	---	---	46.0	4	0	---	---	
15.	3.5	---	11.5	---	---	13.0	5	75	---	---	
16.	3.6	---	29.0	---	---	42.0	4	10	---	---	
17.	3.6	5.0	20.0	---	---	38.0	5	15	---	4.3	
18.	3.6	5.0	49.0	---	---	110.0	4	5	---	2.5	
19.	3.6	---	30.0	---	---	41.0	5	35	---	---	
20.	3.6	---	39.0	---	---	51.0	5	15	---	---	

ARTEMISIA TRIDENTATA

Study Area Red Wash #2

Date 15 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.9	5.9	39.0	--	--	42.0	4	10	--	5.0	
2.	3.8	5.8	29.0	--	--	43.0	3	5	--	3.5	
3.	3.8	--	42.0	--	--	84.0	4	5	--	--	
4.	3.8	--	33.0	--	--	17.0	4	45	--	--	
5.	3.9	5.8	24.0	--	--	25.0	3	15	--	5.5	
6.	3.9	5.8	17.0	--	--	28.0	2	0	--	4.0	
7.	3.9	5.8	29.0	--	--	34.0	4	5	--	2.5	
8.	3.8	--	24.5	--	--	20.0	5	40	--	--	
9.	3.8	5.7	25.0	--	--	36.0	4	10	--	4.5	
10.	3.8	5.8	29.0	--	--	54.0	4	5	--	3.7	
11.	3.8	--	16.0	--	--	15.0	5	40	--	--	
12.	3.9	--	34.0	--	--	84.0	4	5	--	--	
13.	3.7	--	7.5	--	--	9.0	2	5	--	--	
14.	3.7	--	33.0	--	--	46.0	4	0	--	--	
15.	3.7	--	11.5	--	--	13.0	5	75	--	--	
16.	3.8	5.6	29.0	--	--	42.0	4	10	--	2.0	
17.	3.9	5.8	20.0	--	--	38.0	5	15	--	3.5	
18.	3.8	5.8	49.0	--	--	110.0	4	5	--	3.5	
19.	3.8	--	30.0	--	--	41.0	5	35	--	--	
20.	3.9	--	39.0	--	--	51.0	5	15	--	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	4.0	8.7	35.0	50.0	40.0	--	3	12	0.1	2.5
2.	3.8	8.9	40.0	--	--	48.0	4	92	0.3	4.0
3.	4.0	9.1	35.0	--	--	90.0	4	2	3.0	7.7
4.	4.2	--	30.0	--	--	16.0	3	5	0.2	--
5.	4.0	9.0	24.0	--	--	23.0	3	2	0.7	3.8
6.	3.7	8.0	15.0	--	--	20.0	2	0	1.1	3.0
7.	4.1	8.1	28.0	--	--	50.0	3	1	0.4	2.5
8.	3.9	--	19.0	40.0	20.0	--	4	40	1.0	--
9.	4.2	8.1	20.0	54.0	26.0	--	3	2	0.2	4.2
10.	4.0	8.0	27.0	--	--	49.0	4	2	0.6	3.3
11.	4.0	--	13.0	--	--	12.0	4	35	1.0	--
12.	4.2	--	30.0	--	--	84.0	4	5	0.5	--
13.	3.9	--	7.0	10.0	5.0	--	2	15	0.2	--
14.	4.0	7.7	26.0	--	--	56.0	3	1	1.5	2.5
15.	4.0	--	9.0	--	--	13.0	2	20	0.4	--
16.	4.0	6.7	23.0	60.0	33.0	--	4	3	0.7	3.8
17.	4.1	--	11.0	--	--	18.0	2	10	1.4	--
18.	3.9	7.8	45.0	--	--	100.0	4	2	0.9	3.1
19.	4.0	8.0	31.0	55.0	30.0	--	4	14	0.9	1.7
20.	3.9	--	34.0	--	--	40.0	4	12	1.0	--

ARTEMISIA TRIDENTATA

Study Area Red Wash #2

Date 9 November 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm
	VEG.	REPR.								
1.	4.9	15.5	35.0	50.0	40.0	--	3	12	--	--
2.	14.1	15.3	40.0	--	--	48.0	4	92	--	--
3.	14.1	15.6	35.0	--	--	90.0	4	2	--	--
4.	14.0	--	30.0	--	--	16.0	3	5	--	--
5.	14.2	15.6	24.0	--	--	23.0	3	2	--	--
6.	4.9	13.9	15.0	--	--	20.0	2	0	--	--
7.	4.9	15.2	28.0	--	--	50.0	3	1	--	--
8.	4.8	--	19.0	42.0	20.0	--	4	40	--	--
9.	4.9	15.1	20.0	54.0	26.0	--	3	2	--	--
10.	14.0	15.3	27.0	--	--	49.0	4	2	--	--
11.	4.9	--	13.0	--	--	12.0	4	35	--	--
12.	14.3	--	30.0	--	--	84.0	4	5	--	--
13.	4.8	--	7.0	10.0	5.0	--	2	15	--	--
14.	14.1	15.2	26.0	--	--	56.0	3	1	--	--
15.	4.8	--	9.0	--	--	13.0	2	20	--	--
16.	14.0	15.5	23.0	60.0	33.0	--	4	3	--	--
17.	14.0	15.3	11.0	--	--	18.0	2	10	--	--
18.	14.0	15.5	45.0	--	--	100.0	4	2	--	--
19.	4.9	15.4	31.0	55.0	30.0	--	4	14	--	--
20.	4.9	15.3	34.0	--	--	40.0	4	12	--	--

ARTEMISIA TRIDENTATA

Study Area Shoshoni Ant #7

Date 24 April 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm	
	VEG.	REPR.									
1.	2.2	--	--	--	--	--	--	--	--	--	
2.	2.3	--	--	--	--	--	--	--	--	--	
3.	1.9	--	--	--	--	--	--	--	--	--	
4.	1.8	--	--	--	--	--	--	--	--	--	
5.	1.8	--	--	--	--	--	--	--	--	--	
6.	2.0	--	--	--	--	--	--	--	--	--	
7.	1.8	--	--	--	--	--	--	--	--	--	
8.	1.9	--	--	--	--	--	--	--	--	--	
9.	2.2	--	--	--	--	--	--	--	--	--	
10.	1.3	--	--	--	--	--	--	--	--	--	
11.	1.4	--	--	--	--	--	--	--	--	--	
12.	2.1	--	--	--	--	--	--	--	--	--	
13.	2.3	--	--	--	--	--	--	--	--	--	
14.	2.1	--	--	--	--	--	--	--	--	--	
15.	1.9	--	--	--	--	--	--	--	--	--	
16.	2.2	--	--	--	--	--	--	--	--	--	
17.	1.7	--	--	--	--	--	--	--	--	--	
18.	2.3	--	--	--	--	--	--	--	--	--	
19.	1.8	--	--	--	--	--	--	--	--	--	
20.	2.0	--	--	--	--	--	--	--	--	--	

ARTEMISIA TRIDENTATAStudy Area Shoshoni Ant #7Date 17 May 1977

PLANT NO.	PHENO.		PLANT HIGHT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGTH. cm	NEW SEED STALK LNGTH cm	
	STAGE	SCORE									
	VEG.	REPR.	cm	cm	cm	cm					
1.	3.3	--	18.0	--	--	25.0	2	0	--	--	
2.	3.1	--	16.5	--	--	35.0	3	40	--	--	
3.	3.1	--	9.5	--	--	20.0	4	35	--	--	
4.	3.4	--	14.0	--	--	20.0	2	4	--	--	
5.	3.0	--	10.0	--	--	14.0	2	0	--	--	
6.	3.2	--	27.0	--	--	24.0	3	5	--	--	
7.	3.0	--	22.0	--	--	16.0	4	50	--	--	
8.	3.3	--	10.0	--	--	12.0	2	15	--	--	
9.	2.8	--	15.0	--	--	24.0	2	5	--	--	
10.	2.3	--	9.0	--	--	26.0	3	50	--	--	
11.	3.2	--	12.0	--	--	20.0	3	7	--	--	
12.	3.1	--	7.0	--	--	14.0	2	15	--	--	
13.	3.3	--	17.0	--	--	42.0	4	12	--	--	
14.	3.3	--	17.0	--	--	25.0	3	5	--	--	
15.	3.1	--	26.5	--	--	18.0	3	65	--	--	
16.	3.2	--	10.0	--	--	18.0	2	10	--	--	
17.	3.2	--	17.0	--	--	27.0	3	4	--	--	
18.	3.4	--	19.0	--	--	24.0	3	20	--	--	
19.	3.3	--	17.0	--	--	31.0	3	7	--	--	
20.	2.7	--	10.0	--	--	24.0	4	10	--	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HIGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm
	VEG.	REPR.								
1.	3.4	5.2	18.0	--	--	25.0	2	0	--	4.2
2.	3.3	5.2	16.5	--	--	35.0	3	40	--	3.6
3.	3.4	--	9.5	--	--	20.0	4	35	--	--
4.	3.4	5.3	14.0	--	--	20.0	2	4	--	7.2
5.	3.3	5.2	10.0	--	--	14.0	2	0	--	4.3
6.	3.4	5.1	27.0	--	--	24.0	3	5	--	3.2
7.	3.2	5.1	22.0	--	--	16.0	4	50	--	4.3
8.	3.2	5.1	10.0	--	--	12.0	2	15	--	5.2
9.	3.1	5.0	15.0	--	--	24.0	2	5	--	4.2
10.	3.4	5.2	9.0	--	--	26.0	3	50	--	5.0
11.	3.2	5.1	12.0	--	--	20.0	3	7	--	5.6
12.	3.3	--	7.0	--	--	14.0	2	15	--	--
13.	3.4	5.2	17.0	--	--	42.0	4	12	--	5.2
14.	3.2	5.2	17.0	--	--	25.0	3	5	--	5.4
15.	3.1	5.1	26.5	--	--	18.0	3	65	--	3.6
16.	3.3	5.2	10.0	--	--	18.0	2	10	--	8.0
17.	3.2	5.2	17.0	--	--	27.0	3	4	--	6.2
18.	3.4	5.3	19.0	--	--	24.0	3	20	--	8.0
19.	3.4	5.2	17.0	--	--	31.0	3	7	--	4.7
20.	3.3	5.2	10.0	--	--	24.0	4	10	--	6.2

ARTEMISIA TRIDENTATA

Study Area Shoshoni Ant #7

Date 29 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LENGTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LENGTH. cm	NEW SEED STALK LENGTH. cm	
	VEG.	REPR.									
1.	3.4	5.6	18.0	---	---	25.0	2	0	---	7.0	
2.	3.5	5.2	16.5	---	---	35.0	3	40	---	5.5	
3.	3.4	---	9.5	---	---	20.0	4	35	---	---	
4.	3.4	5.3	14.0	---	---	20.0	2	4	---	7.0	
5.	3.4	5.2	10.0	---	---	14.0	2	0	---	4.5	
6.	3.5	5.4	27.0	---	---	24.0	3	5	---	4.4	
7.	3.3	5.2	22.0	---	---	16.0	4	50	---	4.6	
8.	3.5	5.4	10.0	---	---	12.0	2	15	---	5.7	
9.	3.3	5.6	15.0	---	---	24.0	2	5	---	6.0	
10.	3.4	5.2	9.0	---	---	26.0	3	50	---	8.1	
11.	3.2	5.2	12.0	---	---	20.0	3	7	---	9.0	(Lvs. drying)
12.	3.3	---	7.0	---	---	14.0	2	15	---	---	
13.	3.3	5.2	17.0	---	---	42.0	4	12	---	4.4	
14.	3.4	5.3	17.0	---	---	25.0	3	5	---	6.0	
15.	3.4	---	26.5	---	---	18.0	3	65	---	---	
16.	3.4	5.4	10.0	---	---	18.0	2	10	---	4.0	
17.	3.3	5.5	17.0	---	---	27.0	3	4	---	5.0	
18.	3.3	5.5	19.0	---	---	24.0	3	20	---	7.5	
19.	3.4	5.5	17.0	---	---	31.0	3	7	---	8.6	
20.	3.3	---	10.0	---	---	24.0	4	10	---	---	

ARTEMISIA TRIDENTATAStudy Area Shoshoni Ant #7Date 19 July 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.6	5.5	18.0	--	--	25.0	2	0	--	8.5	
2.	3.7	5.4	16.5	--	--	35.0	3	40	--	5.5	
3.	3.6	5.1	9.5	--	--	20.0	4	35	--	3.0	
4.	3.6	5.7	14.0	--	--	20.0	2	4	--	7.0	
5.	3.6	5.5	10.0	--	--	14.0	2	0	--	4.0	
6.	3.7	5.5	27.0	--	--	24.0	3	5	--	4.5	
7.	3.5	5.4	22.0	--	--	16.0	4	50	--	4.0	
8.	3.6	5.6	10.0	--	--	12.0	2	15	--	7.0	
9.	3.5	5.7	15.0	--	--	24.0	2	5	--	5.0	
10.	3.7	5.6	9.0	--	--	26.0	3	50	--	11.0	
11.	3.6	5.8	12.0	--	--	20.0	3	7	--	8.0	
12.	3.5	--	7.0	--	--	14.0	2	15	--	--	
13.	3.5	5.5	17.0	--	--	42.0	4	12	--	4.5	
14.	3.5	5.6	17.0	--	--	25.0	3	5	--	7.0	
15.	3.7	5.6	26.5	--	--	18.0	3	65	--	3.5	
16.	3.6	5.7	10.0	--	--	18.0	2	10	--	6.0	
17.	3.6	5.6	17.0	--	--	27.0	3	4	--	8.5	
18.	3.7	5.7	19.0	--	--	24.0	3	20	--	10.5	
19.	3.6	5.6	17.0	--	--	31.0	3	7	--	7.5	
20.	3.5	5.4	10.0	--	--	24.0	4	10	--	3.5	

ARTEMISIA TRIDENTATAStudy Area Shoshoni Ant #7Date 10 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH cm	
	VEG.	REPR.									
1.	3.8	5.8	18.0	--	--	25.0	2	0	--	6.5	
2.	3.6	5.5	16.5	--	--	35.0	3	40	--	4.2	
3.	3.6	--	9.5	--	--	20.0	4	35	--	--	
4.	3.7	5.7	14.0	--	--	20.0	2	4	--	6.8	
5.	3.6	5.5	10.0	--	--	14.0	2	0	--	4.5	
6.	3.6	5.6	27.0	--	--	24.0	3	5	--	5.6	
7.	3.6	5.3	22.0	--	--	16.0	4	50	--	2.5	
8.	3.6	5.6	10.0	--	--	12.0	2	15	--	6.5	
9.	3.6	5.6	15.0	--	--	24.0	2	5	--	5.5	
10.	3.6	5.6	9.0	--	--	26.0	3	50	--	8.0	
11.	3.7	5.7	12.0	--	--	20.0	3	7	--	9.5	
12.	3.6	--	7.0	--	--	14.0	2	15	--	--	
13.	3.6	5.3	17.0	--	--	42.0	4	12	--	4.7	
14.	3.6	5.3	17.0	--	--	25.0	3	5	--	4.5	
15.	3.7	5.3	26.5	--	--	18.0	3	65	--	4.5	
16.	3.6	5.5	10.0	--	--	18.0	2	10	--	2.8	
17.	3.6	5.3	17.0	--	--	27.0	3	4	--	4.8	
18.	3.7	5.6	19.0	--	--	24.0	3	20	--	6.0	
19.	3.7	5.6	17.0	--	--	31.0	3	7	--	5.2	
20.	3.7	5.5	10.0	--	--	24.0	4	10	--	7.8	

PLANT NO.	PHENO. STAGE SCORE		PLANT HIGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm
	VEG.	REPR.								
1.	4.6	9.2	19.0	--	--	28.0	2	15	0.7	8.7
2.	4.4	8.7	11.0	--	--	31.0	3	70	0.8	4.2
3.	4.6	9.2	11.0	--	--	20.0	4	60	1.5	3.0
4.	4.3	9.1	17.0	--	--	18.0	3	5	1.4	6.4
5.	4.3	8.0	16.0	--	--	18.0	2	2	1.0	--
6.	4.3	10.2	28.0	41.0	22.0	--	3	5	1.1	3.2
7.	4.4	10.3	20.0	55.0	45.0	--	4	65	0.7	2.6
8.	4.4	10.3	19.0	--	--	36.0	3	6	0.5	8.2
9.	4.6	10.4	15.0	--	--	24.0	2	3	0.6	4.5
10.	4.4	10.3	9.0	--	--	21.0	3	70	1.2	11.4
11.	4.4	10.4	15.0	--	--	26.0	3	12	0.6	7.2
12.	4.3	--	8.0	--	--	12.0	3	80	0.3	--
13.	4.4	10.4	17.0	--	--	38.0	3	15	0.2	3.1
14.	4.4	10.3	19.0	34.0	20.0	--	3	15	0.3	6.6
15.	4.5	--	20.0	--	--	30.0	3	85	0.1	--
16.	4.6	10.6	6.0	--	--	20.0	3	20	0.1	4.1
17.	4.3	10.3	15.0	40.0	16.0	--	3	5	0.7	5.5
18.	4.4	10.4	21.0	--	--	33.0	3	7	0.3	7.2
19.	4.4	10.6	15.0	--	--	35.0	3	12	0.3	5.4
20.	4.7	--	9.0	--	--	20.0	4	5	0.1	2.5

ARTEMISIA TRIDENTATA

Study Area Shoshoni Ant #7

Date 19 November 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	(Snow & snowing)
	VEG.	REPR.									
1.	4.9	15.5	19.0	--	--	28.0	2	15	--	--	
2.	4.9	15.5	11.0	--	--	31.0	3	70	--	--	
3.	4.9	15.5	11.0	--	--	20.0	4	60	--	--	
4.	4.9	15.5	17.0	--	--	18.0	3	5	--	--	
5.	4.9	15.0	16.0	--	--	18.0	2	2	--	--	
6.	4.9	17.0	28.0	41.0	22.0	--	3	5	--	--	
7.	4.9	17.0	20.0	55.5	45.0	--	4	65	--	--	
8.	4.9	17.0	19.0	--	--	36.0	3	6	--	--	
9.	4.9	17.0	15.0	--	--	24.0	2	3	--	--	
10.	4.9	17.0	9.0	--	--	21.0	3	70	--	--	
11.	4.9	15.5	15.0	--	--	26.0	3	12	--	--	
12.	4.8	--	8.0	--	--	12.0	3	80	--	--	
13.	4.9	17.0	17.0	--	--	38.0	3	15	--	--	
14.	4.9	17.0	19.0	34.0	20.0	--	3	15	--	--	
15.	4.9	17.0	20.0	--	--	30.0	3	85	--	--	
16.	4.9	17.0	6.0	--	--	20.0	3	20	--	--	
17.	4.9	17.0	15.0	40.0	16.0	--	3	5	--	--	
18.	4.9	15.7	21.0	--	--	33.0	3	7	--	--	
19.	4.9	17.0	15.0	--	--	35.0	3	12	--	--	
20.	4.9	--	9.0	--	--	20.0	4	5	--	--	(No leaves)

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	17.0	--	14.0	--	--	--	--	--	--	--	
2.	17.0	--	7.5	--	--	--	--	--	--	--	
3.	1.1	--	20.0	--	--	--	--	--	--	--	
4.	1.1	--	37.0	--	--	--	--	--	--	--	
5.	17.0	--	18.0	--	--	--	--	--	--	--	
6.	17.0	--	12.0	--	--	--	--	--	--	--	
7.	17.0	--	15.0	--	--	--	--	--	--	--	
8.	17.0	--	5.0	--	--	--	--	--	--	--	
9.	1.1	--	18.0	--	--	--	--	--	--	--	
10.	17.0	--	21.0	--	--	--	--	--	--	--	
11.	17.0	--	37.0	--	--	--	--	--	--	--	
12.	17.0	--	11.0	--	--	--	--	--	--	--	
13.	17.0	--	16.0	--	--	--	--	--	--	--	
14.	17.0	--	10.0	--	--	--	--	--	--	--	
15.	1.1	--	19.0	--	--	--	--	--	--	--	
16.	1.1	--	11.0	--	--	--	--	--	--	--	
17.	17.0	--	8.0	--	--	--	--	--	--	--	
18.	17.0	--	34.0	--	--	--	--	--	--	--	
19.	17.0	--	20.0	--	--	--	--	--	--	--	
20.	17.0	--	12.0	--	--	--	--	--	--	--	

ARTEMISIA TRIDENTATA

Study Area Sweetwater

Date 18 May 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT. cm	PLANT LENGTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LENGTH. cm	NEW SEED STALK LENGTH cm	
	VEG.	REPR.									
1.	3.2	--	14.0	--	--	34.0	3	3	--	--	
2.	3.0	--	7.0	--	--	5.0	5	95	--	--	
3.	3.3	--	23.0	--	--	33.0	4	12	--	--	
4.	3.2	--	33.0	--	--	56.0	4	4	--	--	
5.	3.0	--	19.0	--	--	18.0	2	18	--	--	
6.	2.7	--	13.0	--	--	25.0	4	5	--	--	
7.	2.4	--	13.0	--	--	45.0	4	70	--	--	
8.	3.2	--	4.0	--	--	18.0	3	5	--	--	
9.	3.0	--	15.0	--	--	54.0	4	4	--	--	
10.	2.4	--	20.0	--	--	50.0	4	17	--	--	
11.	2.5	--	28.0	--	--	80.0	4	3	--	--	
12.	2.1	--	14.0	--	--	23.0	5	90	--	--	
13.	3.2	--	13.0	--	--	22.0	3	0	--	--	
14.	2.5	--	5.0	--	--	27.0	5	90	--	--	
15.	2.9	--	35.0	--	--	66.0	4	3	--	--	
16.	2.4	--	30.0	--	--	90.0	4	7	--	--	
17.	2.4	--	9.0	--	--	45.0	4	5	--	--	
18.	3.0	--	32.0	--	--	52.0	4	7	--	--	
19.	2.7	--	20.0	--	--	51.0	4	3	--	--	
20.	2.3	--	10.0	--	--	18.0	5	75	--	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.3	5.2	14.0	--	--	34.0	3	3	--	5.0	
2.	3.3	--	7.0	--	--	5.0	5	95	--	--	
3.	3.4	5.1	23.0	--	--	33.0	4	12	--	5.0	
4.	3.4	5.2	33.0	--	--	56.0	4	4	--	5.2	
5.	3.3	5.2	19.0	--	--	18.0	2	18	--	4.7	
6.	3.3	5.1	13.0	--	--	25.0	4	5	--	4.2	
7.	3.3	5.1	13.0	--	--	45.0	4	70	--	3.2	
8.	3.2	--	4.0	--	--	18.0	3	5	--	--	
9.	3.2	5.2	15.0	--	--	54.0	4	4	--	5.2	
10.	3.0	--	20.0	--	--	50.0	4	17	--	--	
11.	3.2	5.0	28.0	--	--	80.0	4	3	--	3.7	
12.	3.0	5.0	14.0	--	--	23.0	5	90	--	3.5	
13.	3.3	5.0	13.0	--	--	22.0	3	0	--	5.0	
14.	3.2	5.0	5.0	--	--	27.0	5	90	--	4.1	
15.	3.4	5.2	35.0	--	--	66.0	4	3	--	4.2	
16.	3.2	--	30.0	--	--	90.0	4	7	--	--	
17.	3.2	--	9.0	--	--	45.0	4	5	--	--	
18.	3.3	5.1	32.0	--	--	52.0	4	7	--	3.5	
19.	3.1	5.0	20.0	--	--	51.0	4	3	--	4.4	
20.	3.1	5.1	10.0	--	--	18.0	5	75	--	3.5	

ARTEMISIA TRIDENTATAStudy Area SweetwaterDate 29 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.4	5.2	14.0	--	--	34.0	3	3	--	5.5	
2.	3.4	--	7.0	--	--	5.0	5	95	--	--	
3.	3.3	5.2	23.0	--	--	33.0	4	12	--	6.2	
4.	3.3	5.2	33.0	--	--	56.0	4	4	--	8.4	
5.	3.3	5.2	19.0	--	--	18.0	2	18	--	6.8	
6.	3.3	5.1	13.0	--	--	25.0	4	5	--	5.1	
7.	3.3	5.2	13.0	--	--	45.0	4	70	--	6.4	
8.	3.3	--	4.0	--	--	18.0	3	5	--	--	
9.	3.3	5.2	15.0	--	--	54.0	4	4	--	8.2	
10.	3.2	--	20.0	--	--	50.0	4	17	--	--	
11.	3.2	5.2	28.0	--	--	80.0	4	3	--	5.2	
12.	3.1	5.2	14.0	--	--	23.0	5	90	--	3.8	
13.	3.4	5.2	13.0	--	--	22.0	3	0	--	7.5	
14.	3.2	5.2	5.0	--	--	27.0	5	90	--	5.3	
15.	3.4	5.2	35.0	--	--	66.0	4	3	--	5.3	
16.	3.3	--	30.0	--	--	90.0	4	7	--	--	
17.	3.2	--	9.0	--	--	45.0	4	5	--	--	
18.	3.3	5.2	32.0	--	--	52.0	4	7	--	5.2	
19.	3.1	5.2	20.0	--	--	51.0	4	3	--	6.8	
20.	3.1	5.2	10.0	--	--	18.0	5	75	--	4.5	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	3.5	5.7	14.0	--	--	34.0	3	3	--	10.0	
2.	3.5	--	7.0	--	--	5.0	5	95	--	--	
3.	3.6	5.6	23.0	--	--	33.0	4	12	--	6.0	
4.	3.5	5.7	33.0	--	--	56.0	4	4	--	4.5	
5.	3.5	5.7	19.0	--	--	18.0	2	18	--	6.0	
6.	3.4	5.6	13.0	--	--	25.0	4	5	--	7.5	
7.	3.4	5.6	13.0	--	--	45.0	4	70	--	5.5	
8.	3.4	--	4.0	--	--	18.0	3	5	--	--	
9.	3.5	5.4	15.0	--	--	54.0	4	4	--	13.0	
10.	3.4	--	20.0	--	--	50.0	4	17	--	--	
11.	3.6	5.4	28.0	--	--	80.0	4	3	--	7.0	
12.	3.4	5.4	14.0	--	--	23.0	5	90	--	6.0	
13.	3.6	5.6	13.0	--	--	22.0	3	0	--	9.0	
14.	3.4	5.4	5.0	--	--	27.0	5	90	--	9.0	
15.	3.6	5.6	35.0	--	--	66.0	4	3	--	6.0	
16.	3.5	--	30.0	--	--	90.0	4	7	--	--	
17.	3.4	--	9.0	--	--	45.0	4	5	--	--	
18.	3.6	5.6	32.0	--	--	52.0	4	7	--	8.0	
19.	3.5	5.4	20.0	--	--	51.0	4	3	--	7.5	
20.	3.5	5.5	10.0	--	--	18.0	5	75	--	5.5	

ARTEMISIA TRIDENTATAStudy Area SweetwaterDate 10 August 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	3.8	5.9	14.0	--	--	34.0	3	3	--	7.5
2.	3.6	--	7.0	--	--	5.0	5	95	--	--
3.	3.8	5.8	23.0	--	--	33.0	4	12	--	7.0
4.	3.9	5.9	33.0	--	--	56.0	4	4	--	8.3
5.	3.8	5.9	19.0	--	--	18.0	2	18	--	8.2
6.	3.6	5.7	13.0	--	--	25.0	4	5	--	8.0
7.	3.6	5.8	13.0	--	--	45.0	4	70	--	6.5
8.	3.5	--	4.0	--	--	18.0	3	5	--	--
9.	3.9	5.8	15.0	--	--	54.0	4	4	--	13.1
10.	3.6	--	20.0	--	--	50.0	4	17	--	--
11.	3.8	5.8	28.0	--	--	80.0	4	3	--	6.5
12.	3.7	5.7	14.0	--	--	23.0	5	90	--	5.9
13.	3.7	5.8	13.0	--	--	22.0	3	0	--	7.5
14.	3.7	5.6	5.0	--	--	27.0	5	90	--	4.0
15.	3.9	5.9	35.0	--	--	66.0	4	3	--	8.3
16.	3.7	5.4	30.0	--	--	90.0	4	7	--	3.5
17.	3.7	--	9.0	--	--	45.0	4	5	--	--
18.	3.9	5.8	32.0	--	--	52.0	4	7	--	7.8
19.	3.7	5.7	20.0	--	--	51.0	4	3	--	9.5
20.	3.8	5.8	10.0	--	--	18.0	5	75	--	8.2

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH.	NEW SEED STALK LNTH.
	VEG.	REPR.								
1.	4.4	10.8	14.0	44.0	16.0	--	3	2	0.7	5.3
2.	4.5	--	6.0	--	--	8.0	3	80	0.1	--
3.	4.3	10.7	23.0	38.0	25.0	--	3	30	0.6	5.8
4.	4.7	11.2	31.0	--	--	44.0	3	3	0.4	7.0
5.	4.7	11.3	19.0	--	--	14.0	3	10	0.4	6.0
6.	4.6	11.2	14.0	--	--	24.0	3	5	0.2	7.7
7.	4.6	11.2	17.0	--	--	16.0	5	10	0.3	5.8
8.	4.6	--	4.0	--	--	18.0	2	15	0.3	--
9.	4.6	11.3	13.0	--	--	27.0	3	4	0.4	8.5
10.	4.4	--	20.0	--	--	18.0	5	35	0.1	--
11.	4.3	11.3	32.0	--	--	20.0	4	10	0.3	6.5
12.	4.6	11.4	12.0	--	--	21.0	5	65	0.1	5.7
13.	4.2	11.4	13.0	--	--	21.0	3	5	0.6	1.7
14.	4.5	11.4	7.0	--	--	18.0	5	80	0.1	3.0
15.	4.5	11.4	31.0	--	--	35.0	4	10	0.3	4.7
16.	4.5	--	30.0	--	--	30.0	5	20	0.4	--
17.	4.6	--	7.0	--	--	25.0	4	2	0.1	--
18.	4.7	11.2	33.0	--	--	36.0	3	2	0.5	4.7
19.	4.3	10.7	16.0	--	--	41.0	3	10	0.1	6.7
20.	4.6	11.4	9.0	--	--	17.0	5	85	0.1	4.5

ARTEMISIA TRIDENTATA

Study Area Upper Government DrawDate 24 April 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH cm	
	VEG.	REPR.									
1.	1.8	--	--	--	--	--	--	--	--	--	
2.	1.9	--	--	--	--	--	--	--	--	--	
3.	1.9	--	--	--	--	--	--	--	--	--	
4.	2.1	--	--	--	--	--	--	--	--	--	
5.	1.7	--	--	--	--	--	--	--	--	--	
6.	1.9	--	--	--	--	--	--	--	--	--	
7.	1.7	--	--	--	--	--	--	--	--	--	
8.	2.0	--	--	--	--	--	--	--	--	--	
9.	1.7	--	--	--	--	--	--	--	--	--	
10.	2.1	--	--	--	--	--	--	--	--	--	
11.	1.5	--	--	--	--	--	--	--	--	--	
12.	2.2	--	--	--	--	--	--	--	--	--	
13.	1.7	--	--	--	--	--	--	--	--	--	
14.	1.8	--	--	--	--	--	--	--	--	--	(Repl.)
15.	1.7	--	--	--	--	--	--	--	--	--	
16.	1.6	--	--	--	--	--	--	--	--	--	
17.	1.8	--	--	--	--	--	--	--	--	--	
18.	1.6	--	--	--	--	--	--	--	--	--	
19.	1.8	--	--	--	--	--	--	--	--	--	
20.	1.8	--	--	--	--	--	--	--	--	--	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm	
	VEG.	REPR.									
1.	3.3	--	20.0	--	--	15.0	2	15	--	--	
2.	3.2	--	16.0	--	--	56.0	4	15	--	--	
3.	3.2	--	23.0	--	--	34.0	4	5	--	--	
4.	3.2	--	14.0	--	--	6.0	4	80	--	--	
5.	3.1	--	30.0	--	--	50.0	4	7	--	--	
6.	3.3	--	32.0	--	--	40.0	4	5	--	--	
7.	3.1	--	17.0	--	--	25.0	3	3	--	--	
8.	3.1	--	14.0	--	--	43.0	3	40	--	--	
9.	3.1	--	30.0	--	--	40.0	4	7	--	--	
10.	3.3	--	27.0	--	--	30.0	4	5	--	--	
11.	3.3	--	30.0	--	--	28.0	3	7	--	--	
12.	3.4	--	14.0	--	--	10.0	2	15	--	--	
13.	3.2	--	30.0	--	--	60.0	4	8	--	--	
14.	3.3	--	33.0	--	--	60.0	4	3	--	--	
15.	3.3	--	21.0	--	--	17.0	2	0	--	--	
16.	3.3	--	29.0	--	--	30.0	3	5	--	--	
17.	3.2	--	20.0	--	--	32.0	3	4	--	--	
18.	3.1	--	34.0	--	--	74.0	4	9	--	--	
19.	3.3	--	19.0	--	--	12.0	1	0	--	--	
20.	3.0	--	36.0	--	--	42.0	3	3	--	--	

ARTEMISIA TRIDENTATA

Study Area Upper Government Draw

Date 8 June 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNGTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LGTH. cm	NEW SEED STALK LGTH. cm
	VEG.	REPR.								
1.	3.5	5.2	20.0	--	--	15.0	2	15	--	6.0
2.	3.3	5.4	16.0	--	--	56.0	4	15	--	7.6
3.	3.2	5.3	23.0	--	--	34.0	4	5	--	6.5
4.	3.4	5.2	14.0	--	--	6.0	4	80	--	9.0
5.	3.3	5.2	30.0	--	--	50.0	4	7	--	7.2
6.	3.3	5.2	32.0	--	--	40.0	4	5	--	5.7
7.	3.4	--	17.0	--	--	25.0	3	3	--	--
8.	3.4	5.1	14.0	--	--	43.0	3	40	--	5.0
9.	3.5	5.2	30.0	--	--	40.0	4	7	--	9.0
10.	3.4	5.2	27.0	--	--	30.0	4	5	--	7.0
11.	3.3	5.0	30.0	--	--	28.0	3	7	--	4.2
12.	3.4	5.3	14.0	--	--	10.0	2	15	--	9.5
13.	3.4	5.1	30.0	--	--	60.0	4	8	--	8.4
14.	3.3	5.3	33.0	--	--	60.0	4	3	--	10.0
15.	3.5	5.3	21.0	--	--	17.0	2	0	--	9.0
16.	3.3	5.1	29.0	--	--	30.0	3	5	--	9.6
17.	3.3	5.1	20.0	--	--	32.0	3	4	--	6.2
18.	3.3	5.0	34.0	--	--	74.0	4	9	--	5.0
19.	3.2	5.1	19.0	--	--	12.0	1	0	--	7.0
20.	3.2	5.0	36.0	--	--	42.0	3	3	--	4.4

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LENGTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LENGTH. cm	NEW SEED STALK LENGTH cm	(New twig length)
	VEG.	REPR.									
1.	3.7	--	20.0	--	--	15.0	2	15	2.6	--	
2.	3.5	5.3	16.0	--	--	56.0	4	15	2.4	8.7	
3.	3.5	5.3	23.0	--	--	34.0	4	5	1.6	8.4	
4.	3.5	5.3	14.0	--	--	6.0	4	80	1.2	10.9	
5.	3.5	5.4	30.0	--	--	50.0	4	7	1.5	9.2	
6.	3.3	5.2	32.0	--	--	40.0	4	5	--	9.1	
7.	3.3	5.3	17.0	--	--	25.0	3	3	1.4	4.7	
8.	3.5	5.4	14.0	--	--	43.0	3	40	1.4	6.4	
9.	3.4	5.2	30.0	--	--	40.0	4	7	1.3	7.2	
10.	3.5	5.3	27.0	--	--	30.0	4	5	1.4	9.4	
11.	3.4	5.3	30.0	--	--	28.0	3	7	1.0	10.4	
12.	3.5	5.2	14.0	--	--	10.0	2	15	2.3	9.0	
13.	3.5	5.3	30.0	--	--	60.0	4	8	1.5	11.4	
14.	3.3	5.3	33.0	--	--	60.0	4	3	--	11.9	
15.	3.3	5.2	21.0	--	--	17.0	2	0	1.0	7.5	
16.	3.3	5.2	29.0	--	--	30.0	3	5	--	7.3	
17.	3.3	5.4	20.0	--	--	32.0	3	4	--	7.2	
18.	3.3	5.2	34.0	--	--	74.0	4	9	1.2	6.8	
19.	3.4	5.2	19.0	--	--	12.0	1	0	--	9.2	
20.	3.3	5.2	36.0	--	--	42.0	3	3	--	5.2	

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Study Area Upper Government Draw

Date 19 July 1977

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNGLTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNGLTH. cm	NEW SEED STALK LNGLTH cm	(Lvs. drying)
	VEG.	REPR.									
1.	3.6	--	20.0	--	--	15.0	2	15	--	--	
2.	3.5	5.6	16.0	--	--	56.0	4	15	--	11.0	
3.	3.6	5.5	23.0	--	--	34.0	4	5	--	8.0	
4.	3.6	5.5	14.0	--	--	6.0	4	80	--	10.5	
5.	3.5	5.7	30.0	--	--	50.0	4	7	--	8.0	
6.	3.5	5.5	32.0	--	--	40.0	4	5	--	9.0	
7.	3.6	5.4	17.0	--	--	25.0	3	3	--	6.0	
8.	3.6	5.5	14.0	--	--	43.0	3	40	--	5.0	
9.	3.7	5.5	30.0	--	--	40.0	4	7	--	8.5	
10.	3.6	5.6	27.0	--	--	30.0	4	5	--	10.0	
11.	3.6	5.6	30.0	--	--	28.0	3	7	--	13.0	
12.	3.7	5.5	14.0	--	--	10.0	2	15	--	11.5	
13.	3.5	5.6	30.0	--	--	60.0	4	8	--	11.5	
14.	3.6	5.6	33.0	--	--	60.0	4	3	--	15.0	
15.	3.6	5.7	21.0	--	--	17.0	2	0	--	9.0	
16.	3.5	5.6	29.0	--	--	30.0	3	5	--	11.5	
17.	3.6	5.7	20.0	--	--	32.0	3	4	--	9.5	
18.	3.6	5.6	34.0	--	--	74.0	4	9	--	11.0	
19.	3.7	5.5	19.0	--	--	12.0	1	0	--	9.5	
20.	3.5	5.6	36.0	--	--	42.0	3	3	--	6.0	

PLANT NO.	PHENO. STAGE SCORE		PLANT HGT. cm	PLANT LNTH. cm	PLANT WIDTH cm	PLANT DIAM. cm	PLANT AGE CLASS	DEAD BRANCH PER- CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	3.6	--	20.0	--	--	15.0	2	15	--	--
2.	3.8	6.4	16.0	--	--	56.0	4	15	--	5.0
3.	3.5	6.4	23.0	--	--	34.0	4	5	--	8.4
4.	3.7	6.1	14.0	--	--	6.0	4	80	--	9.5
5.	3.6	6.3	30.0	--	--	50.0	4	7	--	11.5
6.	3.6	6.3	32.0	--	--	40.0	4	5	--	12.6
7.	3.7	6.1	17.0	--	--	25.0	3	3	--	5.0
8.	3.8	6.4	14.0	--	--	43.0	3	40	--	6.7
9.	3.7	6.4	30.0	--	--	40.0	4	7	--	9.6
10.	3.6	6.4	27.0	--	--	30.0	4	5	--	10.2
11.	3.7	6.0	30.0	--	--	28.0	3	7	--	13.0
12.	3.7	6.2	14.0	--	--	10.0	2	15	--	11.0
13.	3.6	6.4	30.0	--	--	60.0	4	8	--	12.1
14.	3.6	5.8	33.0	--	--	60.0	4	3	--	12.7
15.	3.7	6.4	21.0	--	--	17.0	2	0	--	9.5
16.	3.7	6.4	29.0	--	--	30.0	3	5	--	10.0
17.	3.6	5.8	20.0	--	--	32.0	3	4	--	9.0
18.	3.6	6.4	34.0	--	--	74.0	4	9	--	11.3
19.	3.7	6.2	19.0	--	--	12.0	1	0	--	9.7
20.	3.7	6.3	36.0	--	--	42.0	3	3	--	5.6

PLANT NO.	PHENO. STAGE SCORE		PLANT HGHT.	PLANT LNTH.	PLANT WIDTH	PLANT DIAM.	PLANT AGE CLASS	DEAD BRANCH PER-CENT	NEW VEG. TWIG LNTH. cm	NEW SEED STALK LNTH. cm
	VEG.	REPR.								
1.	4.5	--	20.2	--	--	16.0	2	5	5.5	--
2.	4.4	7.8	15.0	--	--	38.0	3.7	60	2.2	9.4
3.	4.3	7.4	21.0	--	--	23.0	3	5	6.0	11.8
4.	4.4	7.5	19.0	--	--	14.0	4	40	1.2	9.7
5.	4.3	7.4	18.0	--	--	34.0	3	5	1.5	13.5
6.	4.3	7.3	32.0	--	--	36.0	3	2	0.4	9.5
7.	4.3	7.2	29.0	--	--	17.0	2	0	1.2	6.2
8.	4.2	6.9	16.0	--	--	13.0	2	0	1.3	6.0
9.	4.2	6.9	34.0	--	--	36.0	3	2	1.7	7.0
10.	4.5	7.5	27.0	--	--	28.0	3	2	1.9	9.0
11.	4.4	8.2	31.0	--	--	30.0	3	2	1.3	12.8
12.	4.2	6.7	12.0	--	--	7.0	2	15	2.1	11.1
13.	4.5	8.0	29.0	--	--	49.0	3	3	2.1	12.0
14.	4.4	7.8	32.0	--	--	20.0	3	5	2.4	13.8
15.	4.5	7.7	19.0	--	--	20.0	2	3	1.4	9.2
16.	4.4	7.4	26.0	--	--	48.0	3	6	2.6	13.4
17.	4.2	6.7	16.0	--	--	32.0	3	2	1.2	10.0
18.	4.4	7.3	15.0	--	--	26.0	3	4	0.7	10.4
19.	4.5	7.7	16.0	--	--	10.0	2	0	5.2	11.7
20.	4.4	7.1	30.0	--	--	17.0	3	3	1.1	6.4

TABLE V. Phenological development dates for all species for three major growth stages - growth initiation, full bloom, seed dissemination - by enclosure for the years 1973 through 1977.

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TABLE V.

Exclosure	Species	Growth Initiation					Full Bloom					Seed Dissemination				
		1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Bud Kimball	AGSM	----	Mar	Mar	Mar	23 Apr	----	25 Jun	30 Jun	20 Jul	1 Jul	10 Aug	10 Aug	15 Aug	19 Aug	11 Aug
	AGSP	----	----	----	----	----	----	----	----	----	Jun	----	----	----	----	20 Jul
	ALTE	----	----	----	----	----	----	----	20 Jun	----	----	12 Jul	17 Jul	20 Jul	----	----
	ARHO ₂	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	ARTR	----	20 May	May	May	23 Apr	25 Sep	20 Sep	Sep	25 Sep	17 Sep	----	Nov	Nov	Nov	----
	BOGR	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	BRJA	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	BRTE	----	----	----	Mar	23 Apr	----	15 Jun	25 Jun	23 Jun	8 Jun	----	----	20 Jul	30 Jul	1 Jul
	CACH	----	----	----	----	23 Apr	----	----	----	----	8 Jun	----	----	----	----	1 Jul
	CANU	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CAS	----	25 Apr	----	Apr	----	----	5 Jul	20 Jun	15 Jun	----	20 Jul	25 Jul	25 Jul	15 Jul	----
	CHDE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CRE	----	----	----	----	23 Apr	----	20 Jun	15 Jun	5 Jul	May	----	----	----	15 Jul	1 Jul
	CRMO	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CYMO	----	----	----	----	----	----	----	----	----	----	----	----	----	15 Jul	----
	DEPI	----	----	----	----	----	----	----	20 Jun	15 Jun	----	----	----	25 Jul	25 Jun	----
	ERPU	----	----	----	Apr	Apr	----	----	25 Jun	15 Jun	Jun	----	----	25 Jul	30 Jun	1 Jul
	KOCR	----	Mar	Mar	Mar	Apr	----	20 Jun	----	20 Jun	8 Jun	20 Jul	10 Jul	----	25 Jul	20 Jul
	LARE	----	----	----	Mar	Apr	----	10 Jun	17 Jun	15 Jun	8 Jun	20 Jul	25 Jul	25 Jul	25 Jul	20 Jul
	LEDE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1 Jul
	LERE	----	25 Apr	----	Apr	17 May	----	25 Jun	25 Jun	27 Jun	----	10 Jul	15 Jul	15 Jul	10 Jul	1 Jul
	LOOR	----	----	----	----	23 Apr	----	----	----	----	17 May	----	----	----	----	1 Jul
	MAGR	----	5 May	----	May	----	----	15 Jun	----	15 Jun	----	----	15 Jul	----	20 Jul	----
	MATA	----	----	----	May	23 Apr	----	----	23 Jun	20 Jul	1 Jul	----	----	----	----	20 Jul
	OPPO	----	----	----	Apr	23 Apr	----	15 Jun	----	20 Jun	----	Sep	30 Aug	15 Aug	5 Aug	11 Aug
	PHHO	----	----	----	Mar	23 Apr	----	----	10 Jun	15 Jun	----	----	----	----	17 Aug	1 Jul
	PLPA	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	PLPA	----	----	----	----	----	----	----	23 Jun	----	----	25 Jul	20 Jul	25 Jul	----	----
	PLSP	----	----	----	----	May	----	----	----	----	----	----	----	----	----	1 Jul
	POSE	----	Mar	Mar	Mar	Mar	----	5 Jun	25 Jun	1 Jul	8 Jun	15 Jul	1 Jul	5 Jul	20 Jul	1 Jul
	SIHY	----	Mar	Mar	Apr	----	----	15 Jul	10 Jul	15 Jul	Jun	20 Jul	30 Jul	30 Jul	30 Jul	1 Jul

TABLE V. (continued)

Exclosure	Growth Initiation					Full Bloom					Seed Dissemination				
Species	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Bud Kimball (cont'd)															
SILI	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
SPCO	----	Mar	----	Apr	23 Apr	----	25 Jun	30 Jun	10 Jul	----	----	20 Jul	25 Jul	10 Aug	----
SPCR	----	----	----	----	----	----	----	30 Jun	----	----	----	----	27 Jul	----	----
STCO	----	Mar	Mar	Mar	Mar	----	25 Jun	5 Jul	10 Jul	Jun	25 Jul	30 Jul	30 Jul	5 Aug	1 Jun
STVI	----	----	----	Mar	----	----	----	----	3 Jul	----	----	----	----	20 Jul	20 Jul
TRDU	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
VIAM	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
VIO	----	----	----	----	23 Apr	----	----	15 Jun	----	17 May	----	----	----	----	1 Jul
VUOC	----	----	----	----	May	----	----	----	----	Jun	----	----	----	----	1 Jul
Cedar Mountain															
AGCR	----	5 Mar	Apr	Apr	20 Apr	Jun	17 Jun	Jun	20 Jun	Jun	----	----	Aug	10 Aug	19 Jul
AGSP	----	----	Apr	Apr	20 Apr	5 Jul	30 Jun	20 Jun	1 Jul	----	----	----	5 Aug	20 Aug	----
ARHO	----	----	----	----	20 Apr	----	----	----	----	----	----	----	----	----	----
ARHO ₂	----	Apr	----	Apr	----	Jun	5 Jun	----	3 Jun	----	----	----	----	5 Aug	----
ARSP	----	Apr	----	Apr	20 Apr	Jul	Jul	25 Jun	5 Jul	Jun	----	----	Jul	1 Aug	27 Jun
ARTR	----	24 May	15 May	May	19 May	Sep	Sep	Sep	Sep	----	----	----	----	Nov	5 Nov
ASPU	----	Apr	Apr	Mar	----	----	30 May	25 May	May	----	30 Jun	17 Jun	25 Jun	1 Jul	27 Jun
ATCO	----	May	May	May	19 May	Jul	25 Jun	Jul	----	----	----	----	----	1 Jul	----
ATGA	----	Apr	Apr	Apr	19 May	Jun	5 Jun	5 Jun	1 Jun	----	----	----	----	1 Aug	----
ATNU	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CHVI	May	May	10 May	May	19 May	----	Aug	Aug	18 Aug	18 Aug	----	----	----	Sep	5 Nov
CORA	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CYMO	----	----	----	----	20 Apr	----	----	----	----	May	----	----	----	----	19 Jul
EROV	----	----	May	----	20 Apr	----	Jun	10 Jun	Jun	----	----	Aug	1 Aug	5 Aug	19 Jul
ARPU	----	----	10 May	Apr	20 Apr	Jun	15 Jun	----	20 Jun	----	Jul	Jul	Aug	20 Jul	----
EULA	----	24 May	15 May	May	19 May	----	Jul	15 Jul	----	----	----	----	----	----	----
HAAC	----	Apr	----	Apr	20 Apr	10 Jun	1 Jun	5 Jun	7 Jun	----	----	21 Jun	20 Jul	1 Jul	----

TABLE V. (continued)

Enclosure		Growth Initiation					Full Bloom					Seed Dissemination				
Species		1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Cedar Mountain (cont'd)	KOAM	----	11 Mar	Mar	Mar	Apr	----	Jul	10 Jul	----	----	----	Aug	----	----	----
	OPPO	----	Apr	5 May	May	19 May	10 Jul	Jul	10 Jul	15 Jun	----	----	----	----	10 Aug	9 Sep
	ORHY	----	5 Apr	----	Apr	May	20 Jun	20 Jun	----	20 Jun	----	Aug	----	25 Jul	1 Aug	----
	PEFR	----	----	----	----	20 Apr	----	----	----	----	----	----	----	----	----	----
	PHHO	----	Apr	----	Apr	20 Apr	----	30 May	30 May	5 Jun	----	28 Jun	20 Jun	Jul	30 Jun	----
	PHLO	----	----	----	----	7 Jun	----	30 May	15 Jun	10 Jun	----	----	15 Jun	15 Jul	20 Jul	----
	POSE	----	15 Mar	----	Mar	20 Apr	Jun	15 Jun	15 Jun	15 Jun	----	Jul	5 Jul	Jul	10 Jul	27 Jun
	SAVE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	SIAL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	SIHY	----	10 Mar	----	----	20 Apr	28 Jun	15 Jun	20 Jun	15 Jun	----	1 Aug	Jul	Aug	10 Aug	----
	SILI	----	----	----	----	May	----	25 May	----	1 Jul	----	28 Jun	----	----	----	----
	SPCO	----	----	----	----	May	----	15 Jun	Jul	12 Jun	----	----	----	Aug	20 Jul	----
	TENU	----	Apr	10 May	Apr	19 May	Jul	Jul	Jul	----	----	----	----	Aug	20 Aug	----
	TOIN	----	----	----	----	20 Apr	----	----	----	----	----	----	----	----	----	----
Cumberland #3	AGGL	----	10 Mar	----	May	19 May	15 Jun	10 Jun	----	10 Jun	----	Aug	Jun	----	10 Jul	7 Jun
	AGSM	----	Apr	Mar	Apr	Apr	25 Jul	30 Jun	Jul	----	Apr	20 Aug	5 Aug	Aug	----	----
	AGSP	----	Apr	Mar	Apr	Apr	28 Jun	25 Jun	Jul	20 Jul	----	5 Aug	30 Jul	25 Jul	20 Aug	----
	AMAL	----	20 May	----	May	19 May	----	30 Jun	10 Jun	----	----	----	----	10 Sep	9 Aug	9 Aug
	ANDI	----	May	----	Apr	19 May	----	Jun	----	1 Jun	7 Jun	Jun	20 Jun	----	15 Jul	19 Jul
	ARHO	----	----	----	----	19 May	----	----	----	----	----	----	----	----	9 Aug	----
	ARHO ₂	----	May	----	May	----	Jun	24 May	Jun	1 Jun	----	5 Jul	10 Jul	Jul	1 Aug	----
	ARTR	Jun	20 May	May	May	Spr	Sep	Sep	5 Aug	15 Sep	----	----	----	Nov	5 Nov	----
	ASCA	----	----	----	----	----	10 Jul	----	----	----	----	----	----	----	----	----
	ASCI	----	May	----	----	19 May	----	6 Jun	10 Jun	1 Jun	----	28 Jun	25 Jun	Jul	15 Jul	----
	ASDI	----	Apr	----	May	----	5 Jul	6 Jun	Jun	3 Jul	----	30 Jul	15 Jul	Jul	20 Aug	----
	ASPU	----	----	----	----	19 May	----	----	----	----	----	----	----	----	----	28 Jun
	AST	----	----	----	----	----	----	10 Jun	12 Jun	----	----	----	20 Jul	----	----	----
	CANU	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CAS	----	12 Mar	----	May	May	5 Jul	30 Jun	Jun	15 Jun	28 Jun	25 Jul	----	Aug	20 Aug	9 Aug

TABLE V. (continued)

Exclosure	Species	Growth Initiation					Full Bloom					Seed Dissemination				
		1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Cumberland #3 (cont'd)	CHNA	----	----	----	----	Jun	----	----	----	----	9 Aug	----	----	----	----	7 Sep
	CHVI	----	20 May	----	May	19 May	5 Aug	15 Jul	Jul	5 Aug	9 Aug	----	----	----	1 Oct	5 Nov
	COPA	----	1 Jun	May	----	Apr	----	15 Jun	Jun	1 Jul	28 Jun	----	20 Jul	Jul	25 Aug	9 Aug
	CORA	----	6 Jun	----	May	----	----	----	----	10 Aug	----	----	----	----	30 Aug	----
	CRE	----	30 May	----	May	----	5 Jul	15 Jul	20 Jun	30 Jun	----	14 Aug	----	Jul	14 Jul	----
	DEPI	----	----	----	----	----	----	----	----	----	----	----	20 Jun	----	----	----
	ERMI	----	14 May	May	May	19 May	10 Aug	15 Jul	5 Aug	20 Aug	9 Aug	----	----	----	30 Oct	5 Nov
	EROV	----	12 Mar	----	----	----	25 Jun	6 Jun	----	----	----	14 Aug	10 Jul	----	----	----
	ERSU	----	----	----	----	----	----	25 Jun	----	----	----	----	25 Jul	----	----	----
	LARE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	LEPE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	LOSI	----	----	----	----	Apr	----	----	----	----	----	----	----	----	----	28 Jun
	MACA	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	MELO	----	Apr	----	Apr	Apr	5 Jul	30 May	15 Jun	15 Jun	May	----	Jul	----	10 Aug	7 Jun
	OPPO	----	May	May	May	19 May	----	15 Jul	5 Jul	10 Aug	19 Jul	----	----	Aug	20 Sep	9 Aug
	ORHY	----	12 Mar	----	Mar	Apr	5 Jul	30 Jun	----	10 Jun	----	----	----	----	20 Aug	9 Aug
	PELA	----	----	----	----	----	20 Jun	15 Jun	25 Jun	----	----	10 Aug	15 Jul	Jul	20 Aug	----
	PHHO	----	Mar	----	----	----	Jun	24 May	5 Jun	5 Jun	----	10 Jul	20 Jul	Jul	10 Jul	----
	PHLO	----	Mar	----	May	19 May	Jun	6 Jun	15 Jun	15 Jun	----	10 Jul	20 Jul	Jul	10 Jul	28 Jun
	PHMU	----	----	----	19 May	----	----	----	----	----	----	----	----	----	----	28 Jun
	POFE	----	Mar	----	Apr	19 May	Jun	15 Jun	Jul	15 Jun	Jun	25 Jul	10 Jul	25 Jul	1 Aug	28 Jun
	POSE	----	Mar	----	Apr	Apr	2 Jul	30 Jun	30 Jun	10 Jun	Jun	15 Jul	5 Jul	Jul	15 Jul	28 Jun
	SEN	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	SIAL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	SIHY	----	----	----	----	19 May	5 Jul	1 Jul	----	----	----	30 Jul	30 Jul	25 Jul	10 Aug	----
	SILI	----	----	----	May	----	----	----	----	----	----	----	----	----	----	----
	STCO	----	----	----	Apr	Apr	----	Jun	Jun	Jun	----	----	Jul	Jul	15 Jul	----
	SYOC	----	----	----	19 May	----	----	----	----	----	----	----	----	----	----	7 Sep
	TECA	----	24 May	----	May	19 May	10 Aug	10 Jul	5 Aug	1 Aug	Jul	----	----	----	30 Sep	7 Sep
	TRDU	----	----	----	May	19 May	----	----	----	----	----	----	----	----	----	----
	TRI	----	----	----	May	19 May	----	30 May	----	----	----	28 Jun	20 Jun	----	----	----

TABLE V.

Exclosure	Species	Growth Initiation					Full Bloom					Seed Dissemination				
		1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Cumberland #3 (cont'd)	UMB	----	----	----	Apr	----	----	----	1 Jun	----	----	Jul	6 Jun	----	1 Jul	----
	VIO	----	----	----	19 May	----	----	----	----	----	----	----	----	----	----	----
	VIVA	----	----	May	----	----	----	----	Jun	----	----	----	Jun	Jul	----	----
	WYAM	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	ZYPA	----	12 Mar	----	Mar	Apr	----	8 Jun	12 Jun	10 Jun	7 Jun	Jun	15 Jun	Jun	20 Jul	28 Jun
Demer	AGSM	----	5 Mar	5 Mar	Mar	Mar	20 Jun	25 Jun	5 Jul	----	----	1 Nov	15 Aug	20 Aug	20 Aug	----
	AGSP	----	5 Mar	1 Mar	Mar	Mar	10 Jun	25 Jun	1 Jul	15 Jun	----	1 Aug	30 Jul	5 Aug	30 Jul	11 Aug
	ALTE	----	----	Apr	----	Apr	----	----	10 Jun	----	May	----	----	10 Jul	----	30 Jun
	ARTR	----	20 May	22 Apr	Apr	23 Apr	10 Sep	20 Sep	10 Sep	5 Sep	----	15 Nov	15 Nov	10 Nov	Nov	----
	AST	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	BOGR	----	30 Mar	25 Apr	Apr	Mar	5 Aug	5 Jul	15 Jul	12 Jul	----	10 Aug	30 Jul	5 Aug	20 Aug	----
	BRTE	----	----	Mar	Mar	Mar	----	10 Jun	12 Jun	15 Jun	9 Jun	24 Jun	5 Jul	10 Jul	30 Jul	30 Jun
	CAS	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CHE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CHAL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CHEN	----	----	Apr	----	----	----	----	----	----	----	----	----	----	1 Oct	----
	CHFR	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CIR	----	----	Apr	May	----	----	----	----	----	----	----	----	----	----	----
	CRY	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CYMO	----	----	Mar	----	----	----	----	1 Jun	----	----	----	----	20 Jun	----	----
	DEGE	----	25 Mar	5 May	Apr	23 Apr	30 Jul	10 Jun	20 Jun	15 Jun	9 Jun	1 Aug	10 Jul	20 Jul	15 Jun	30 Jun
	DEPI	----	----	----	----	Apr	----	----	----	----	9 Jun	----	----	----	----	----
	ERPU	----	Mar	----	----	----	----	----	----	----	----	----	----	----	----	----
	GICO	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	LARE	----	----	May	May	----	----	5 Jun	15 Jun	28 May	----	Jul	15 Jul	20 Jul	20 Jul	20 Jul
	LEDE	----	----	May	May	May	----	----	Jun	----	----	----	----	20 Jul	25 Jul	30 Jun
	LUPU	----	----	20 May	----	----	----	----	25 Jun	----	----	----	----	20 Jul	----	----
	OPPO	----	28 Mar	----	Apr	23 Apr	----	25 Jun	----	Jun	----	Aug	10 Aug	----	30 Jul	11 Aug
	ORHY	----	----	5 Mar	Mar	----	5 Jun	----	10 Jun	Jul	----	20 Jul	----	20 Jul	Aug	20 Jul
	PLSP	----	----	Mar	May	Apr	----	5 Jun	15 Jun	25 Jun	9 Jun	10 Jul	15 Jul	29 Jul	10 Aug	30 Jun

TABLE V. (continued)

Exclosure		Growth Initiation					Full Bloom					Seed Dissemination				
Species		1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Demer (cont'd)																
	POSE	----	1 Mar	1 Mar	Mar	Mar	1 Jun	10 Jun	15 Jun	25 Jun	----	1 Jul	1 Jul	1 Jul	10 Aug	30 Jun
	SAKA	Jun	----	----	Jun	----	----	----	----	----	----	Jul	----	----	----	----
	SIAL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	SIHY	----	5 Mar	1 Mar	Mar	Mar	----	25 Jun	15 Jun	15 Jun	----	2 Aug	25 Jul	30 Jul	30 Jul	20 Jul
	SILI	----	----	Apr	May	17 May	----	----	May	10 Jul	9 Jun	----	----	20 Jul	10 Aug	11 Aug
	SPCO	----	25 Apr	30 Apr	May	23 Apr	5 Jul	20 Jun	1 Jul	----	----	30 Jul	15 Jul	25 Jul	----	----
	STCO	----	5 Mar	5 Mar	Mar	Mar	5 Jun	25 Jun	25 Jun	15 Jun	Jun	25 Jul	20 Jul	20 Jul	30 Jul	20 Jul
	TRDU	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	VUOC	----	----	May	May	----	----	10 Jun	12 Jun	25 Jun	----	----	20 Jun	Jul	30 Jul	30 Jun
Farson																
	AGSM	----	30 Mar	26 Apr	Apr	21 Apr	20 Jul	15 Jul	----	15 Jul	----	15 Oct	21 Sep	15 Oct	10 Sep	----
	ALTE	----	----	----	Apr	21 Apr	----	----	25 Jun	25 May	----	----	----	Jul	10 Aug	----
	ARHO	----	----	----	----	21 Apr	----	----	----	----	----	----	----	----	----	----
	ARHO ₂	----	----	May	May	18 May	----	----	----	10 Jul	----	----	----	----	10 Aug	----
	ARTR	----	20 May	10 May	15 May	21 Apr	10 Sep	21 Sep	10 Sep	10 Sep	----	15 Nov	15 Nov	15 Nov	Nov	----
	ASPU	----	15 Mar	30 Apr	Apr	Jul	Jun	23 May	10 Jun	20 Jun	----	Jun	30 Jun	20 Jun	5 Aug	----
	ASSP	----	15 Mar	30 Apr	----	----	----	27 Apr	----	----	----	15 Jun	----	----	----	----
	ATCO	----	27 Apr	26 Apr	Apr	7 Jun	20 Jul	10 Aug	20 Jun	Jul	----	15 Oct	Oct	Oct	Aug	----
	CAEL	----	15 Apr	20 May	Apr	21 Apr	----	25 May	----	20 May	May	----	10 Jul	----	5 Aug	----
	CHE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CHER	----	Apr	----	----	----	15 Aug	----	----	----	----	----	15 Jul	----	----	----
	CHVI	May	Apr	15 May	25 Apr	18 May	15 Aug	24 Aug	10 Aug	5 Aug	----	15 Oct	25 Sep	Sep	20 Sep	6 Nov
	CRFL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CYMO	----	----	May	Apr	21 Apr	----	----	Jun	----	----	----	----	Jul	----	----
	DEPI	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	ERCE	----	----	----	----	10 Aug	----	----	----	----	----	----	----	----	----	----
	EROV	----	Apr	10 May	5 May	18 May	5 Jul	10 Jun	15 Jun	10 Jul	----	25 Jul	10 Jul	Jul	20 Aug	----
	EULA	----	27 Apr	30 Apr	15 May	18 May	10 Aug	10 Sep	30 Jul	----	Sep	20 Oct	25 Oct	Oct	----	6 Nov
	GACO	----	----	Apr	----	----	----	----	----	----	----	----	----	----	----	----
	GRSP	----	Apr	15 May	25 Apr	18 May	----	----	5 Jun	25 Jul	----	----	10 Nov	1 Aug	20 Sep	----
	GUSA	----	----	----	----	18 May	----	----	----	----	----	----	----	----	----	----

TABLE V. (continued)

Exclosure	Growth Initiation					Full Bloom					Seed Dissemination				
Species	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Farson (cont'd)															
HAAC	----	Apr	10 May	Apr	18 May	----	----	20 Jun	Jul	----	----	20 Jun	Jul	20 Aug	----
KOCR	----	----	15 May	Apr	21 Apr	----	----	----	20 Jun	----	----	----	----	20 Aug	----
LARE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
LEPU	----	----	May	----	----	----	----	----	----	----	----	----	Aug	----	----
OPPO	May	27 Apr	10 May	Apr	18 May	25 Jul	10 Jul	Jul	5 Jul	----	Sep	24 Aug	15 Aug	15 Aug	6 Nov
ORHY	----	15 Apr	5 May	Apr	21 Apr	Jun	25 Jun	5 Jul	10 Jul	----	15 Oct	15 Jul	30 Jul	10 Aug	----
PECL	----	----	30 Apr	May	18 May	----	6 Jun	15 Jun	5 Jun	----	----	Jul	Jul	1 Aug	----
PHHO	May	30 Mar	5 May	Apr	18 May	----	5 Jun	10 Jun	1 Jun	----	27 Jun	5 Jul	Jul	10 Aug	----
POSE	----	15 Apr	5 May	Mar	21 Apr	Jun	6 Jun	20 Jun	25 Jun	----	20 Jul	20 Jul	20 Jul	5 Aug	----
SIHY	----	30 Mar	30 Apr	Apr	21 Apr	27 Jun	25 Jun	5 Jul	10 Jul	----	10 Aug	15 Jul	5 Aug	20 Aug	----
SILI	May	Apr	May	Apr	----	----	5 Jun	5 Jun	May	----	10 Jul	Jul	5 Jul	Jul	----
SPCO	----	10 May	5 May	May	Jul	----	10 Jun	5 Jul	Jun	----	----	10 Aug	30 Jul	20 Aug	6 Nov
STCO	----	15 Apr	5 May	Apr	21 Apr	10 Jul	30 Jun	10 Jul	Jul	----	10 Aug	15 Jul	30 Jul	15 Aug	----
TECA	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Horse Creek															
AGSM	----	5 Mar	Apr	Apr	----	25 Jun	5 Jul	10 Jul	----	----	10 Nov	20 Aug	20 Aug	15 Aug	----
AGSP	----	5 Mar	Apr	Mar	Mar	20 Jun	30 Jun	5 Jul	10 Jun	Jun	30 Jul	10 Jul	15 Jul	30 Jul	20 Jul
ALTE	----	----	----	Apr	----	----	----	9 Jun	May	----	----	----	10 Jul	20 Jul	----
ANDI	----	----	----	----	----	----	----	----	----	----	----	----	10 Jul	20 Jul	----
ARFE	----	15 Apr	Apr	Apr	Mar	20 Jun	10 Jul	15 Jul	Jul	----	1 Aug	15 Jul	20 Jul	10 Aug	30 Jun
ARHO ₂	----	----	----	----	Mar	----	----	----	----	----	----	----	----	----	8 Jun
ARNO	----	15 May	15 May	May	23 Apr	20 Sep	20 Sep	15 Sep	10 Oct	----	5 Nov	5 Nov	5 Nov	Nov	----
ARTR	----	20 May	20 May	May	23 Apr	10 Sep	20 Sep	20 Sep	10 Oct	----	20 Nov	10 Nov	5 Nov	Nov	----
ASPU	----	Apr	Apr	----	23 Apr	----	20 May	25 May	----	----	25 Jun	15 Jun	20 Jun	----	8 Jun
BRCO	----	----	Apr	----	----	----	25 Jun	Jun	----	----	2 Aug	25 Jul	20 Jul	----	----
BRJA	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BRTE	----	----	Apr	May	Mar	----	15 Jun	30 Jun	May	----	25 Jul	5 Jul	10 Jul	5 Jul	30 Jun
CAAN	----	----	----	----	Mar	----	----	----	----	8 Jun	----	----	----	30 Jun	----
CANU	----	30 May	Apr	May	----	20 Jun	15 Jun	5 Jul	Jun	----	15 Jul	15 Jul	20 Jul	5 Aug	----
CAS	----	20 Mar	Apr	Apr	----	----	5 Jun	10 Jun	10 Jun	----	20 Jul	25 Jul	15 Jul	2 Jul	----
CHDE	----	----	----	May	May	----	----	5 Jul	Jul	8 Jun	----	----	25 Jul	Aug	----

TABLE V. (continued)

Exclosure	Species	Growth Initiation					Full Bloom					Seed Dissemination				
		1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Horse Creek (cont'd)																
	CIR	----	----	----	----	23 Apr	----	----	----	----	----	----	----	----	----	30 Jun
	COPA	----	----	May	May	23 Apr	----	----	30 Jun	----	17 May	----	----	Jul	20 Sep	----
	CRAC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CRBR	----	----	----	----	23 Apr	----	----	----	----	8 Jun	----	----	----	----	30 Jun
	CRE	----	----	May	Apr	----	----	25 May	25 Jun	10 Jun	----	----	Jun	Jul	10 Jul	----
	CRFL	----	----	----	----	23 Apr	----	----	----	----	----	----	----	----	----	30 Jun
	CRP	----	----	Apr	----	----	30 Jun	10 Jun	10 Jun	----	----	2 Aug	5 Jul	10 Jul	----	----
	CRY	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CYMO	----	----	Apr	----	----	----	----	5 Jun	----	----	----	----	20 Jun	----	----
	DEPI	----	----	----	May	Apr	30 Jun	----	5 Jun	10 Jun	May	Jul	----	10 Jul	10 Jul	30 Jun
	ERPU	----	Apr	Apr	May	----	25 Jun	20 Jun	25 Jun	7 Jun	----	20 Jul	10 Jul	10 Jul	30 Jul	----
	EULA	----	25 Apr	10 May	May	Apr	25 Jul	20 Jul	20 Jul	25 Sep	----	20 Sep	20 Sep	20 Sep	Nov	----
	GACO	----	----	May	Apr	23 Apr	----	5 Jun	30 Jun	Jun	8 Jun	30 Jun	5 Aug	25 Jul	20 Aug	20 Jun
	GUSA	----	----	----	----	23 Apr	----	----	----	----	17 Sep	----	----	----	----	----
	HAAC	----	----	----	----	23 Apr	----	----	----	----	----	----	----	----	8 Jun	----
	LARE	----	----	----	May	17 May	26 Jun	----	20 Jun	Jun	----	23 Jul	----	25 Jul	25 Jul	30 Jun
	LASC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	LEDE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	LERE	----	----	----	----	----	----	30 Jun	----	----	----	----	----	25 Jul	----	----
	LOOR	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	MACA	----	30 Mar	----	May	----	25 Jun	20 Jun	----	10 Jul	----	25 Jul	25 Jul	----	20 Aug	----
	MAGR	----	----	Jun	May	----	----	20 Jun	Jul	----	----	----	Jul	----	25 Aug	----
	OPPO	----	----	May	Apr	23 Apr	5 Jun	20 Jun	9 Jun	1 Jul	----	----	20 Aug	10 Sep	10 Aug	20 Jul
	ORHY	----	5 Mar	Apr	May	----	----	5 Jun	1 Jul	Jun	8 Jun	5 Aug	15 Jul	25 Jul	15 Aug	20 Jul
	PECL	----	----	----	----	Apr	----	----	----	----	8 Jun	----	----	----	----	30 Jun
	PEN	----	----	Apr	Apr	----	----	----	15 Jul	12 Jun	----	----	----	30 Jul	10 Jul	----
	PHHO	----	----	Apr	Apr	23 Apr	----	30 May	5 Jun	10 Jun	----	26 Jun	15 Jun	5 Jul	25 Jun	30 Jun
	POSE	----	20 Feb	10 Mar	Apr	Mar	----	20 Jun	25 Jun	15 Jun	8 Jun	15 Jul	5 Jul	5 Jul	5 Aug	30 Jun
	SAKA	26 Jun	20 Jun	15 Jun	Jun	23 Apr	----	25 Aug	5 Aug	25 Aug	17 Sep	----	Sep	----	Sep	----
	SIHY	----	5 Mar	Apr	May	Mar	20 Jun	1 Jul	5 Jul	10 Jun	8 Jun	5 Aug	10 Jul	15 Jul	30 Jul	10 Aug
	SPCO	----	----	----	May	23 Apr	----	5 Jul	5 Jul	10 Jun	8 Jun	1 Aug	25 Jul	25 Jul	25 Jul	10 Aug
	STCO	----	10 Mar	Apr	May	Mar	20 Jun	1 Jul	1 Jul	15 Jun	Jun	5 Aug	15 Jul	15 Jul	15 Aug	20 Jun

TABLE V. (continued)

Exclosure		Growth Initiation					Full Bloom					Seed Dissemination				
Species		1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Mesa Antelope (cont'd)	OPPO	----	May	----	May	May	1 Aug	Jul	Jul	20 Jul	19 Jul	Sep	Sep	Aug	30 Sep	7 Sep
	ORHY	----	30 Mar	----	Apr	21 Apr	10 Jul	30 Jun	5 Jul	1 Jul	Jun	10 Aug	----	1 Aug	20 Aug	5 Nov
	PELA	----	----	----	May	21 Apr	17 Jul	Jul	----	22 Jul	Sep	----	----	----	20 Aug	5 Nov
	PHHO	----	30 Mar	----	Apr	21 Apr	----	23 May	15 Jun	10 Jun	7 Jun	20 Jul	20 Jun	30 Jul	30 Jul	28 Jun
	POFE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	POSE	----	Mar	----	Apr	21 Apr	20 Jun	10 Jun	30 Jun	20 Jun	----	1 Aug	----	Jul	20 Aug	28 Jun
	SIHY	----	Mar	----	Apr	21 Apr	Jul	Jul	Jul	1 Jul	28 Jun	5 Aug	----	4 Aug	15 Aug	19 Jul
	SLLI	----	----	----	Apr	----	30 Jun	----	Jun	20 Jun	----	10 Jul	----	----	10 Aug	----
	SPCO	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	STCO	----	30 Mar	----	Apr	21 Apr	10 Jul	Jul	Jul	1 Jul	19 Jul	15 Aug	----	Jul	1 Aug	7 Sep
	TRI	----	----	----	Apr	May	----	----	5 Jun	----	----	15 Jul	----	20 Jun	----	----
	ACLA	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Owl Draw	AGSM	----	----	Apr	Apr	17 Apr	16 Jul	5 Jul	17 Jul	17 Jul	----	----	5 Aug	25 Jul	Oct	12 Aug
	AGSP	----	----	Apr	Mar	17 Apr	5 Jul	5 Jul	14 Jul	Jul	----	3 Aug	25 Jul	28 Jul	25 Aug	18 Jul
	ALTE	----	----	----	----	Mar	----	----	----	----	----	----	----	----	----	12 Aug
	ANRO	----	----	----	----	Apr	----	----	----	----	----	----	----	----	----	18 Jul
	ARHO	----	May	----	Jun	17 Apr	----	1 Jun	15 Jul	14 Jul	----	----	20 Jun	30 Jul	2 Aug	18 Jul
	ARHO ₂	----	----	May	May	Mar	----	Jun	Jun	Jun	----	----	Jul	25 Jul	30 Jul	2 Jul
	ARNO	----	30 May	May	May	18 May	----	20 Sep	20 Sep	5 Sep	----	----	----	Nov	17 Nov	Nov
	ARTR	----	30 May	May	May	16 May	----	20 Sep	20 Sep	5 Sep	18 Sep	----	----	Nov	17 Nov	Nov
	ASPU	----	----	Apr	Apr	Apr	----	May	25 May	10 Jun	----	----	Jul	20 Jul	25 Jul	2 Jul
	AST	----	----	Apr	Apr	Apr	----	Jun	10 Jun	10 Jun	----	----	Jul	30 Jul	10 Aug	18 Jul
	ASDR	----	----	Apr	Apr	Apr	----	Jun	10 Jun	15 Jul	----	----	Jul	10 Jul	25 Aug	2 Jul
	ASMI ₂	----	----	Apr	Apr	Apr	----	Jun	10 Jun	Jul	----	----	Jul	10 Jul	15 Aug	2 Jul
	BASA	----	5 Jun	1 Jun	May	Apr	----	Jun	Jun	Jun	16 May	----	Jul	Jul	12 Jul	2 Jul
	CACH	----	----	----	17 Apr	----	----	----	----	----	----	----	----	----	----	2 Jul
	CAMI	----	----	----	----	----	----	----	----	----	----	----	Jul	14 Jul	----	----
	CANU	----	May	May	May	17 Apr	16 Jul	5 Jul	14 Jul	1 Jul	2 Jul	----	10 Aug	Aug	10 Aug	18 Jul
	CAS	----	----	Apr	Apr	----	----	6 Jun	25 Jun	----	----	----	Jul	28 Jul	25 Jul	----
	CHDO	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

TABLE V. (continued)

Exclosure	Growth Initiation					Full Bloom					Seed Dissemination				
Species	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Owl Draw (cont'd)															
CHVI	----	May	May	May	17 Apr	Aug	Aug	Aug	25 Aug	12 Aug	----	Sep	25 Sep	10 Oct	----
CIR	----	----	----	----	Apr	----	----	----	----	----	----	----	----	----	12 Aug
CORA	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CRBR	----	----	----	----	----	----	Jun	Jun	----	----	----	Jul	Jul	----	----
CRAC	----	May	May	May	Apr	----	Jun	Jun	Jun	----	----	Jul	14 Jul	17 Jul	2 Jul
CYMO	----	----	----	May	17 Apr	----	Jun	5 Jun	10 Jun	May	----	Jun	1 Jul	20 Jul	2 Jul
DEPI	----	Jun	----	----	----	Jul	Jun	----	----	----	----	Jul	----	----	----
DOPA	----	Jun	----	----	Apr	Jul	Jun	----	----	16 May	----	Jul	----	----	2 Jul
EROC	----	----	----	May	17 Apr	----	----	10 Jun	5 Jun	May	----	----	20 Jul	21 Jul	2 Jul
EULA	----	----	May	May	16 May	----	Jun	5 Jul	30 Jul	Jul	----	Sep	20 Sep	Sep	----
GRSC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
HAAC	----	May	May	May	17 Apr	----	10 Jun	15 Jun	Jun	----	Jul	10 Jul	5 Jul	20 Jul	2 Jul
JUOS	----	May	May	May	16 May	----	Jul	5 Jul	15 Jul	----	----	Aug	Aug	Oct	2 Jul
JUSC	----	May	May	May	16 May	----	Jul	5 Jul	15 Jul	----	----	Aug	Aug	Oct	18 Jul
KOCR	----	----	Apr	Apr	17 Apr	Jul	5 Jun	Jun	Jun	----	1 Aug	15 Jun	20 Jul	20 Aug	2 Jul
LASC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
LERE	----	----	----	May	17 Apr	20 Jul	20 Jun	5 Jul	Jun	17 Apr	Aug	10 Jul	20 Jul	15 Jul	2 Jul
LILE	----	May	May	Jun	17 Apr	----	Jun	25 Jun	1 Jul	----	----	Jul	25 Jul	10 Aug	2 Jul
MAVI	----	----	----	----	----	----	Jul	1 Jul	----	----	----	Jul	Jul	----	----
MAGR	----	May	May	Jun	17 Apr	----	15 Jun	10 Jun	Jun	----	20 Jul	Jul	Jul	10 Aug	12 Aug
MELO	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
OPPO	----	----	May	May	16 May	----	Jun	Jun	10 Jul	----	----	Aug	Aug	10 Jul	----
ORHY	----	----	Apr	Apr	17 Apr	----	25 Jun	Jun	10 Jul	----	----	10 Jul	25 Jul	5 Aug	18 Jul
PECL	----	----	----	----	17 Apr	----	25 Jun	Jun	10 Jul	----	----	10 Jul	25 Jul	5 Aug	2 Jul
PEN	----	----	May	May	----	----	Jun	30 Jun	1 Jul	----	----	Jul	20 Jul	15 Aug	----
PHHO	----	----	May	May	17 Apr	----	1 Jun	1 Jun	5 Jun	----	----	25 Jun	10 Jul	15 Jul	2 Jul
POFE	----	----	Apr	Apr	17 Apr	----	15 Jun	10 Jun	10 Jun	May	20 Jul	10 Jul	Jul	30 Jul	2 Jul
POSE	----	----	Apr	Apr	17 Apr	----	17 Jun	10 Jun	8 Jun	----	20 Jul	10 Jul	Jul	26 Jul	2 Jul
SECA	----	----	May	Apr	Apr	10 Jul	10 Jun	15 Jun	3 Jun	----	----	----	----	12 Jul	2 Jul
SELA	----	----	----	Apr	17 Apr	----	----	30 Jun	1 Jul	----	----	Jul	25 Jul	25 Aug	2 Jul
SPCO	----	----	Apr	Apr	16 May	----	25 Jun	25 Jun	25 Jun	----	----	10 Jul	15 Jul	30 Jul	----

TABLE V. (continued)

Exclosure	Growth Initiation					Full Bloom					Seed Dissemination				
Species	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Owl Draw (cont'd)															
STCO	----	----	Apr	Apr	17 Apr	----	25 Jun	25 Jun	25 Jun	----	----	10 Jul	15 Jul	30 Jul	2 Jul
TRDU	----	----	----	Jun	----	----	----	Jun	20 Jul	----	----	----	5 Jul	26 Jul	2 Jul
TRGY	----	----	----	----	Apr	----	----	----	----	----	----	----	----	----	2 Jul
TRI	----	----	----	Apr	----	----	----	Jun	5 Jun	----	----	----	1 Jul	Jul	----
VIAM	----	----	May	May	Apr	----	10 Jun	15 Jun	Jun	----	10 Jul	15 Jun	5 Jul	Jul	2 Jul
VIO	----	----	----	----	Mar	----	----	----	----	16 May	----	----	----	----	2 Jul
XASA	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ZYVE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Red Wash #2															
AGSM	----	30 Mar	Mar	Apr	20 Apr	Jul	Jul	Jul	Jul	----	Aug	5 Aug	Aug	10 Aug	----
AGSP	----	28 Mar	Mar	Mar	Apr	Jul	Jul	Jul	15 Jun	----	Aug	30 Jul	Aug	10 Sep	----
ALTE	----	May	----	May	Apr	----	5 Jun	15 Jun	10 Jun	----	Jul	Jul	25 Jul	10 Jul	15 Aug
ARCO	----	----	----	----	----	----	----	25 Jun	----	----	----	----	----	----	----
ARHO	----	30 Mar	----	Jun	20 May	30 Jun	5 Jun	5 Jul	15 Jul	27 Jun	Jul	20 Jun	Aug	10 Aug	15 Aug
ARNO	----	May	----	----	----	----	Aug	----	----	----	----	Oct	----	----	----
ARTR	----	May	May	May	20 May	----	Aug	Aug	10 Sep	9 Sep	----	Oct	Oct	Nov	4 Nov
ASDI	----	----	May	Apr	Apr	----	1 Jun	Jul	15 Jun	----	----	Aug	Jul	18 Aug	----
ASKE	Jun	May	----	May	Jun	----	1 Jun	----	18 Aug	----	----	Aug	----	Oct	----
ASPU	----	May	May	Apr	Apr	20 Jun	7 Jun	1 Jun	30 May	6 Jun	Jul	20 Jun	Jul	20 Jul	27 Jun
CHDO	----	30 Mar	May	Apr	20 May	30 Jul	7 Jun	Jul	30 Jun	----	----	1 Aug	----	15 Aug	----
CHNA	----	1 Jun	Jun	May	20 May	Aug	Aug	----	30 Aug	15 Aug	----	----	----	Oct	4 Nov
CHVI	----	May	Jun	May	20 May	Aug	Aug	Aug	10 Aug	15 Aug	----	----	----	Oct	4 Nov
CRFL	----	May	May	May	Apr	30 Jun	20 Jun	26 Jun	12 Jul	15 Jul	----	5 Aug	Jul	18 Aug	15 Aug
CYMO	----	----	----	----	Apr	----	----	----	----	----	----	----	----	----	27 Jun
DEPI	----	May	----	----	----	----	Jun	----	----	----	----	Jul	----	----	----
ERAS	----	May	May	Apr	Apr	20 Jun	5 Jun	13 Jun	15 Jun	Jun	----	30 Jul	Jul	20 Jul	27 Jun
ERMI	----	May	----	May	Apr	----	5 Jul	----	22 Jul	15 Aug	----	Aug	----	25 Sep	4 Nov
EROV	----	May	May	May	20 May	25 Jun	30 Jun	30 Jun	20 Jun	Jun	5 Aug	Jul	Jul	25 Aug	27 Jun
EULA	----	May	May	May	20 May	----	5 Aug	Aug	25 Aug	----	----	----	----	Oct	4 Nov
GIAC	----	----	----	Apr	----	25 Jun	15 Jun	----	10 Jun	----	----	15 Aug	----	15 Jul	----

TABLE V. (continued)

Exclosure	Growth Initiation					Full Bloom					Seed Dissemination				
Species	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Red Wash #2 (cont'd)															
GICO	----	----	----	----	May	----	----	----	----	6 Jun	----	----	----	----	27 Jun
GRSP	----	May	May	May	Apr	Jun	5 Aug	10 Jul	----	----	Jul	----	30 Jul	----	----
HAAC	----	Mar	----	Apr	20 May	25 Jun	5 Jun	20 Jun	10 Jun	----	----	Jul	Jul	1 Aug	27 Jun
LEPU	----	----	----	May	20 May	28 Jun	15 Jun	30 Jun	15 Jul	27 Jun	Jul	5 Aug	25 Jul	18 Aug	15 Aug
MACA	----	----	----	May	Aug	----	10 Aug	----	18 Aug	Sep	----	Aug	----	Oct	----
OPPO	----	----	----	May	20 May	----	Jul	Jul	Jul	15 Jul	----	25 Jul	Aug	1 Sep	15 Aug
ORFA	----	May	----	May	15 Aug	----	10 Jun	----	Jun	Sep	----	30 Jun	----	5 Jul	4 Nov
ORHY	----	11 Mar	Mar	Apr	Apr	10 Jul	5 Jul	5 Jul	Jun	Jun	5 Aug	30 Jul	25 Jul	6 Aug	15 Jul
PEN	----	Mar	----	Apr	Apr	30 Jun	15 Jun	30 Jun	20 Jun	27 Jun	Aug	Aug	Aug	6 Aug	15 Aug
PHHO	----	Mar	----	Apr	Apr	----	1 Jun	5 Jun	10 Jun	----	Jun	20 Jun	25 Jun	20 Jul	27 Jun
POSE	----	11 Mar	Mar	Apr	20 Apr	Jun	25 Jun	Jun	Jun	----	Jul	Aug	Jul	18 Aug	9 Sep
SIHY	----	30 Mar	Mar	Apr	----	----	Jul	Jul	30 Jun	----	----	30 Jul	30 Jul	18 Aug	----
SILL	----	----	----	May	Apr	20 Jun	1 Jun	20 Jun	10 Jun	6 Jun	Jul	15 Jun	Jun	18 Aug	27 Jun
STCO	----	Mar	20 Mar	Apr	20 May	Jul	Jul	Jul	30 Jun	----	Aug	Jul	Jul	20 Aug	----
TECA	----	May	May	May	20 May	Aug	Jul	5 Aug	23 Jul	15 Aug	Aug	Aug	Aug	20 Sep	4 Nov
VIO	----	----	----	----	Apr	----	----	----	----	----	----	----	----	----	15 Aug
Shoshoni Ant #7															
AGSM	----	28 Mar	5 Apr	Apr	23 Apr	5 Jul	15 Jul	18 Jul	15 Jul	----	Oct	30 Oct	30 Oct	1 Oct	----
ALTE	----	----	May	Apr	Apr	Jun	Jun	15 Jun	May	----	30 Jun	15 Jun	30 Jun	15 Jun	Jul
ARTR	----	22 May	May	May	23 Apr	15 Sep	10 Oct	10 Oct	Sep	----	9 Nov	9 Nov	1 Nov	Nov	19 Nov
ASPU	----	5 Mar	Mar	----	----	Jun	5 Jun	20 May	----	----	15 Jul	15 Jun	10 Jul	----	----
BOGR	----	15 Apr	15 Apr	Apr	Mar	7 Aug	20 Jul	20 Jul	6 Jul	----	9 Nov	10 Nov	Nov	Sep	----
BRTE	----	5 Mar	Apr	May	----	----	10 Jun	30 Jun	10 Jun	8 Jun	5 Jul	10 Jul	10 Jul	6 Jul	Jun
CYMO	----	----	----	----	Apr	----	----	30 May	----	17 May	----	----	20 Jun	----	8 Jun
DEPI	----	----	----	May	Apr	----	----	May	May	May	----	----	10 Jul	1 Jul	Jun
ERPU	----	21 Feb	Mar	Apr	----	27 Jun	30 May	30 Jun	17 Jun	Jun	15 Jul	15 Jun	20 Jul	25 Jul	Jun
EULA	----	----	----	----	----	30 Jul	----	----	----	----	Sep	----	----	----	----
LARE	----	----	----	----	----	----	----	----	----	----	Jul	----	----	----	----
LEDE	----	----	----	----	----	----	----	----	----	----	5 Jul	----	20 Jul	----	----
LUPU	----	----	----	May	----	----	25 Jun	15 Jun	----	----	----	----	25 Jul	1 Jul	----
MACA	----	----	----	----	May	----	25 Jun	----	----	8 Jun	----	----	Jul	----	----

TABLE V. (continued)

Exclosure	Species	Growth Initiation					Full Bloom					Seed Dissemination				
		1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Shoshoni Ant #1 (cont'd)	OPPO	----	20 Apr	Apr	Apr	23 Apr	5 Jul	20 Jun	5 Jul	Jun	Jun	15 Aug	----	Aug	Aug	Jun
	ORHY	----	5 Mar	5 Apr	Apr	Apr	Jun	10 Jun	30 Jun	Jun	Jun	5 Aug	15 Jul	15 Jul	30 Jul	Jul
	PHHO	----	5 Mar	10 Apr	Apr	23 Apr	----	10 May	30 May	May	8 Jun	25 Jun	5 Jul	5 Jul	10 Jul	Jul
	PLPA	----	5 Mar	Apr	----	17 May	1 Jul	5 Jun	25 Jun	----	Jun	1 Aug	15 Jul	25 Jul	----	Jun
	POSE	----	21 Feb	30 May	Apr	Apr	Jun	10 Jun	10 Jun	15 Jun	----	30 Jun	5 Jul	30 Jun	10 Aug	Jun
	SIAL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	SIHY	----	25 Mar	25 Mar	Apr	----	Jun	25 Jun	30 Jun	Jun	8 Jun	5 Aug	15 Jul	5 Aug	10 Aug	Jun
	SILI	----	----	----	----	----	----	----	30 May	----	----	----	----	5 Jul	----	----
	SPCO	----	25 Apr	Apr	Apr	17 May	5 Jul	20 Jun	30 Jun	----	----	1 Aug	15 Jul	25 Jul	----	Jun
	STCO	----	5 Mar	Mar	Mar	23 Apr	Jun	5 Jul	5 Jul	Jul	----	5 Aug	15 Jul	20 Jul	5 Aug	Jun
Sweetwater	ARTR	----	28 Mar	5 Apr	Apr	15 Apr	5 Sep	Aug	Aug	25 Aug	----	Nov	Oct	Oct	Oct	----
	AGSM	----	28 Mar	Apr	Apr	15 Apr	12 Jul	10 Jul	5 Jul	----	----	15 Sep	15 Sep	30 Jul	----	----
	ALTE	----	----	----	----	----	----	----	15 Jun	----	----	----	----	25 Jul	----	----
	ARHO	----	----	----	Apr	15 Apr	----	20 Jun	20 Jun	5 Jul	Jun	----	25 Jul	----	1 Aug	19 Jul
	ARHO ₂	----	20 Apr	----	Apr	15 Apr	----	25 May	30 May	25 May	----	----	30 Jun	----	25 Jun	8 Jun
	ARNO	----	22 May	20 May	May	15 Apr	15 Sep	20 Sep	20 Sep	15 Sep	----	5 Nov	25 Oct	25 Oct	Nov	----
	ARTR	----	22 May	20 May	May	15 Apr	15 Sep	15 Sep	20 Sep	19 Sep	----	10 Nov	30 Oct	25 Oct	Nov	----
	ASDI	----	1 Jun	----	----	----	----	20 Jul	Jul	----	----	----	Aug	Aug	----	----
	ASMI	----	----	----	----	15 Apr	----	----	----	----	----	----	----	----	----	----
	ASPU	----	20 Mar	5 Apr	Apr	15 Apr	1 Jul	5 Jun	15 Jun	2 Jun	----	12 Jul	10 Jun	Jun	15 Jul	29 Jun
	ASSP	----	25 Mar	5 Apr	Apr	15 Apr	1 Jul	19 Jun	30 Jun	15 Jun	Jun	Aug	25 Jul	25 Jul	25 Aug	19 Jul
	CAEL	----	----	----	----	15 Apr	----	----	----	----	----	----	----	----	----	8 Jun
	CAFL	----	28 Mar	Apr	Apr	15 Apr	----	30 May	15 Jun	12 Jun	----	20 Aug	5 Aug	5 Jul	19 Sep	8 Jun
	CANU	----	15 May	10 May	----	----	20 Jun	19 Jun	Jun	----	----	5 Jul	5 Jul	----	----	----
	CAS	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CELA	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	CHDO	----	1 Jun	----	----	----	----	20 Jun	20 Jun	----	----	----	10 Jul	25 Jul	----	----
	CHNA	----	25 Apr	30 Apr	May	15 Apr	Sep	Sep	Sep	19 Sep	Aug	Oct	Oct	Oct	Nov	----
	CHVI	May	20 Apr	May	May	18 May	10 Sep	10 Aug	Aug	15 Sep	Aug	30 Oct	----	Oct	Nov	----
	COPA	----	----	----	Apr	Apr	29 Jun	5 Jun	20 Jun	10 Jun	8 Jun	Jul	20 Jul	20 Jul	10 Aug	19 Jul

TABLE V. (continued)

Exclosure	Growth Initiation					Full Bloom					Seed Dissemination				
Species	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Sweetwater (cont'd)															
CRBR	----	----	----	----	15 Apr	----	----	----	----	8 Jun	----	----	----	----	29 Jun
CRFL	----	----	----	----	15 Apr	----	----	----	----	Jun	----	----	----	----	19 Jul
CRP	----	25 Mar	1 Mar	Apr	----	29 Jun	22 May	30 Jun	1 Jul	----	10 Aug	Aug	25 Jul	20 Aug	----
CRY	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CYMO	----	----	May	Apr	Mar	----	----	5 Jun	17 May	----	----	----	20 Jun	15 Jun	8 Jun
DEGE	----	25 Mar	5 Apr	Apr	18 May	20 Jun	25 Jun	15 Jun	May	8 Jun	12 Jul	30 Jun	15 Jul	20 Jul	29 Jun
ERLA	----	----	May	----	----	----	----	15 Jun	----	----	----	----	----	----	----
EROV	----	20 Apr	May	May	Apr	20 Jun	25 May	15 Jun	15 Jun	Jun	5 Jul	10 Jul	10 Jul	Aug	29 Jun
ERPU	----	25 Mar	5 Apr	----	----	29 Jun	15 Jun	Jun	----	----	5 Jul	5 Jul	10 Jul	----	----
KOCR	----	28 Mar	Apr	Apr	15 Apr	25 Jun	20 Jun	20 Jun	20 Jun	----	25 Aug	15 Jul	15 Jul	10 Aug	29 Jun
LEAL	----	----	----	----	----	----	1 Jun	25 Jun	----	----	----	29 Jul	25 Jul	----	----
LEPU	----	20 May	May	Apr	15 Apr	30 Jun	19 Jun	30 Jun	5 Jul	29 Jun	Jul	1 Aug	20 Jul	10 Aug	19 Jul
MAGR	----	----	----	May	May	----	----	Jul	20 Aug	----	----	----	Aug	Sep	19 Jul
OECA	----	----	----	----	----	----	----	20 Jun	----	----	----	----	Jul	----	----
OPPO	----	25 Apr	May	Apr	15 Apr	15 Jul	5 Jul	10 Jul	30 Jul	29 Jun	Sep	Aug	----	Sep	18 Sep
ORFA	----	----	----	----	----	----	20 Jun	Jul	----	----	----	15 Jul	----	----	----
ORHY	----	28 Mar	Apr	Mar	15 Apr	20 Jun	20 Jun	30 Jun	Jun	----	5 Sep	10 Jul	10 Jul	15 Jul	19 Jul
OXLA	----	20 Mar	30 Mar	----	----	----	10 Jun	25 Jun	----	----	Aug	Aug	25 Jul	----	----
PECL	----	May	----	Apr	----	30 Jun	20 Jun	25 Jun	Jun	----	20 Jul	10 Jul	5 Aug	30 Jul	----
PEFR	----	----	----	----	15 Apr	----	----	----	----	Jun	----	----	----	----	29 Jun
PHHO	----	----	----	Apr	15 Apr	30 Jun	22 May	30 May	May	Jun	12 Jul	5 Jul	Jul	2 Jun	29 Jun
POSE	----	25 Mar	Apr	----	----	15 Jun	20 Jun	----	----	----	5 Jul	5 Jul	----	----	----
PSTE	----	20 May	----	May	18 May	----	----	----	Jul	----	----	Aug	----	Aug	----
SADE	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
SPCO	----	28 Mar	5 Apr	Apr	18 May	----	25 Jun	30 Jun	Jul	----	Aug	5 Jul	----	Aug	----
STCO	----	28 Mar	Apr	Mar	15 Apr	25 Jun	25 Jun	30 Jun	25 Jun	----	5 Sep	10 Jul	10 Jul	1 Aug	19 Jul
TECA	----	28 Mar	5 Apr	Apr	18 May	1 Aug	1 Aug	1 Aug	5 Aug	19 Jul	Oct	15 Oct	15 Oct	19 Sep	----
TOIN	----	----	May	Apr	Mar	----	10 Jun	15 Jun	10 Sep	----	----	10 Jul	Aug	Oct	----
VIO	----	----	----	----	Apr	----	----	----	----	8 Jun	----	10 Jul	Aug	Oct	29 Jun
VIVA	----	5 May	----	----	----	----	25 May	1 Jun	----	----	----	15 Jun	----	----	----
ZYVE	----	28 Mar	5 Apr	Apr	15 Apr	----	30 May	5 Jun	May	----	----	5 Jul	30 Jun	25 Jun	29 Jun

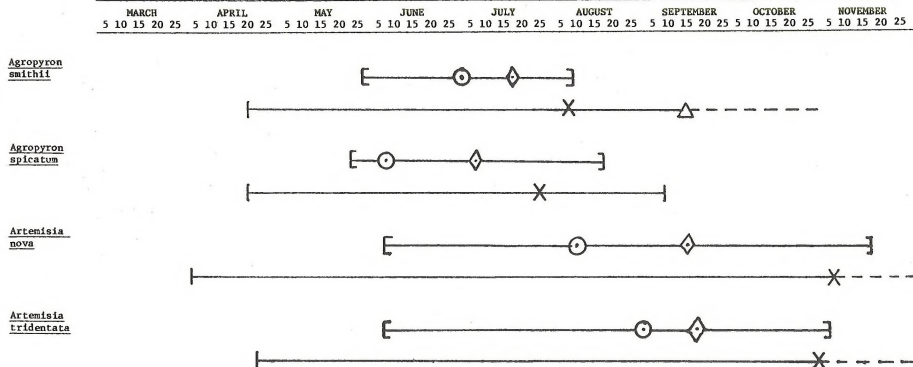
TABLE V. (continued)

Exclosure	Growth Initiation					Full Bloom					Seed Dissemination				
Species	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Upper Gov't Draw															
AGSM	----	Mar	Mar	Apr	Mar	10 Jul	Jul	10 Jul	Jul	----	Aug	25 Aug	Aug	Aug	10 Aug
ALTE	----	----	----	Apr	Apr	Jun	Jun	20 Jun	10 Jun	8 Jun	Jun	1 Jun	Jul	25 Jul	28 Jun
ANDI	----	----	----	----	Apr	----	----	----	----	----	----	----	----	----	8 Jun
ARLI	----	----	May	May	Apr	----	----	30 May	5 Jun	----	----	----	Jun	10 Jul	8 Jun
ARTR	----	May	May	May	23 Apr	Aug	22 Aug	Aug	18 Sep	Sep	Nov	Nov	Nov	Nov	----
ASPU	----	May	May	Apr	23 Apr	----	----	May	1 Jun	18 May	----	----	Jun	5 Jul	28 Jun
BOGR	----	----	----	----	----	----	----	----	----	6 Sep	----	----	----	----	----
BRTE	----	----	Jun	Apr	----	----	----	30 Jun	Jun	----	----	----	25 Jul	25 Jul	19 Jul
CAS	----	----	----	May	23 Apr	5 Jul	10 Jun	5 Jun	20 Jun	8 Jun	25 Jul	Jul	25 Jul	25 Jul	28 Jun
CHVI	----	May	May	May	23 Apr	15 Aug	22 Aug	Aug	20 Sep	10 Aug	----	Sep	Sep	Oct	----
CRAC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CRMO	----	----	----	Apr	23 Apr	----	10 Jun	10 Jun	10 Jun	8 Jun	20 Jul	15 Jun	20 Jul	5 Jul	28 Jun
CYMO	----	----	May	Apr	23 Apr	----	----	Jun	May	18 May	----	----	24 Jun	5 Jun	8 Jun
DEPI	----	----	May	May	----	----	----	15 Jun	Jun	----	----	----	20 Jul	5 Aug	----
ERI	----	----	----	----	----	----	----	----	----	----	Jul	19 Jun	----	----	----
ERPU	----	----	Jun	May	23 Apr	----	----	25 Jun	15 Jul	Jun	----	----	25 Jul	5 Aug	19 Jul
EULA	----	----	May	----	----	10 Jul	----	----	----	----	Aug	----	----	----	----
KOCR	----	Mar	Mar	Apr	----	Jul	20 Jun	30 Jun	20 Jun	8 Jun	25 Jul	Jul	30 Jul	10 Aug	19 Jul
LARE	----	----	Jun	Apr	----	----	----	24 Jun	15 Jun	----	----	----	Jul	10 Aug	----
LEDE	----	----	Jun	----	----	Aug	----	Jun	----	----	----	----	1 Aug	----	----
LERE	----	----	Jun	----	23 Apr	----	----	25 Jun	----	Jun	----	----	Jul	----	19 Jul
LOOR	----	----	----	----	23 Apr	----	----	----	----	18 May	----	----	----	----	28 Jun
MACA	----	----	----	----	Apr	----	----	----	----	28 Jun	----	----	----	----	10 Aug
MAGL	----	----	May	----	----	----	----	30 Jun	Jun	----	----	----	25 Jul	----	----
OPPO	----	May	May	May	23 Apr	5 Jul	Jul	Jul	25 Jun	28 Jun	30 Aug	Aug	Aug	Aug	10 Aug
PECL	----	----	Jun	May	May	----	20 Jun	24 Jun	Jun	----	----	Jul	Aug	1 Jul	10 Aug
PHHO	----	----	Apr	Apr	23 Apr	Jun	5 Jun	1 Jun	May	18 May	Jul	Jul	Jul	1 Jul	8 Jun
PLPA	----	----	----	----	----	----	----	Jul	----	----	----	----	----	----	----
PLSP	----	----	Jun	----	----	----	----	Jul	----	----	----	----	30 Jul	----	----
POSE	----	Mar	Mar	Apr	Mar	----	10 Jun	30 Jun	20 Jun	8 Jun	Jul	Jul	Jul	10 Aug	28 Jun
SIHY	----	Mar	----	----	----	----	Jul	----	----	----	25 Jul	20 Aug	----	----	----

TABLE V. (continued)

Exclosure	Growth Initiation					Full Bloom					Seed Dissemination				
Species	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
Upper Gov't Draw (cont'd)															
SPCO	----	May	May	Apr	23 Apr	30 Jun	15 Jun	Jun	Jun	----	Aug	20 Aug	5 Aug	15 Aug	10 Aug
STCO	----	----	----	----	23 Apr	----	----	----	----	----	----	----	----	----	19 Jul
TRDU	----	----	----	----	Apr	----	----	----	----	----	----	----	----	----	28 Jun
UMB	----	----	----	----	----	----	----	May	----	----	17 Jul	----	Jun	----	----
VIAM	----	----	Jun	May	Apr	----	----	25 Jun	----	----	Jul	Jul	Jul	----	28 Jun
VIO	----	----	May	May	23 Apr	----	----	Jun	May	May	----	----	Jul	Jun	28 Jun

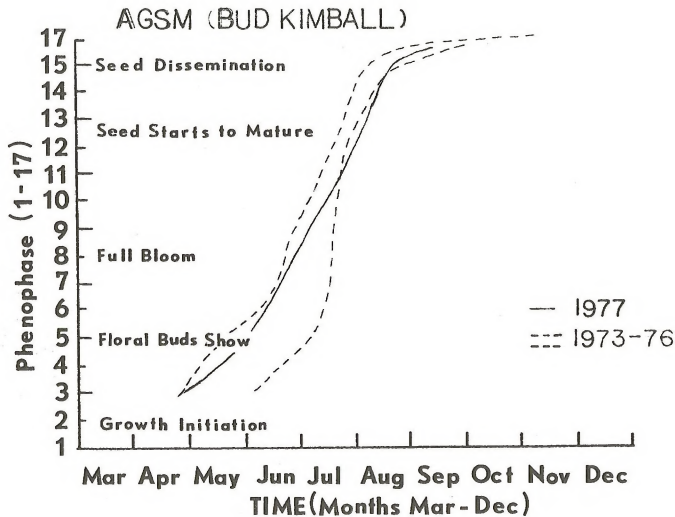
Figure 1. Phenological development averages in all study areas for four prime species. 1977

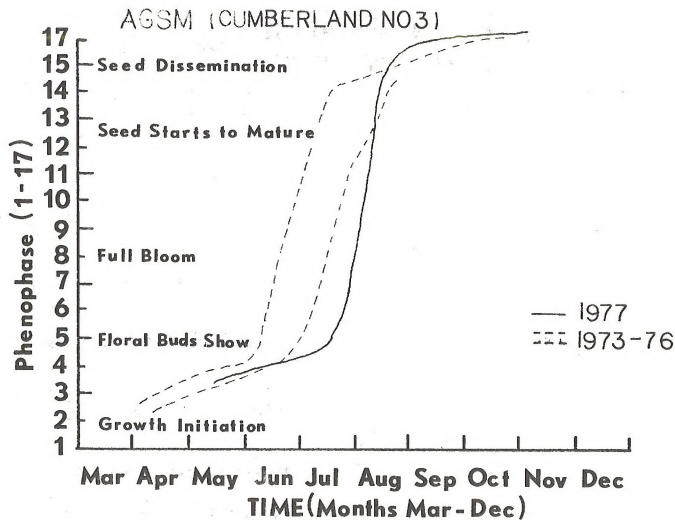


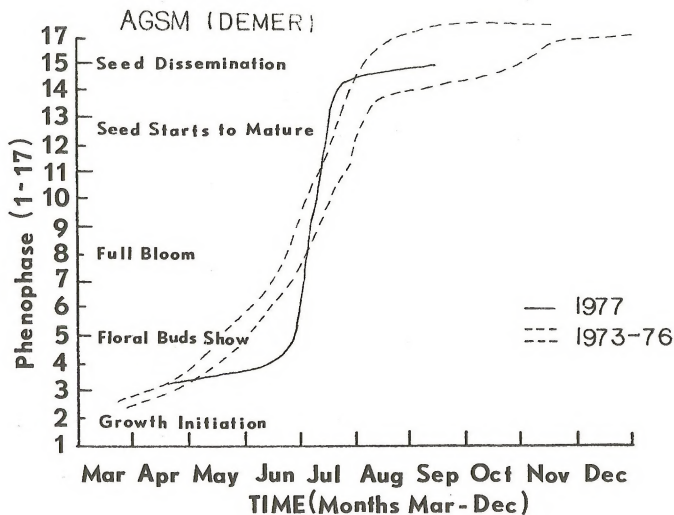
LEGEND: Reproductive [Flower stalk appears; ○ Bloom; ◇ Seeds formed;] seeds disseminated
 Vegetative | Growth starts; X drying starts; Δ regreening; - plant dried

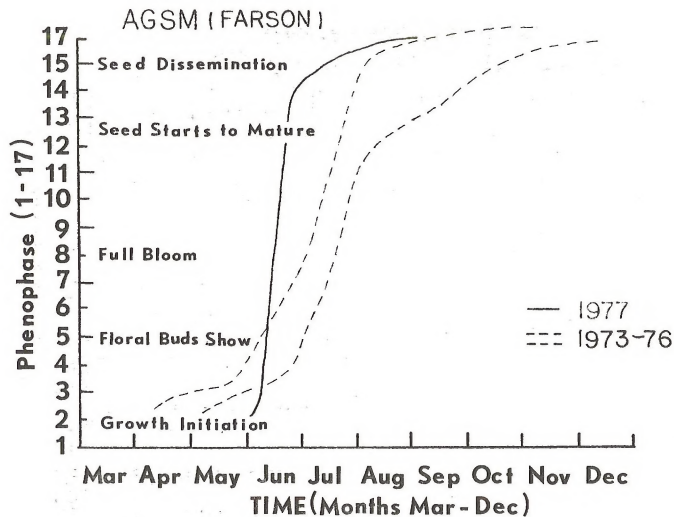
FIGURE 2. Phenological progression curve for each of the prime species at each exclosure. Current year compared to earliest and latest phenological development from 1973 through 1976.

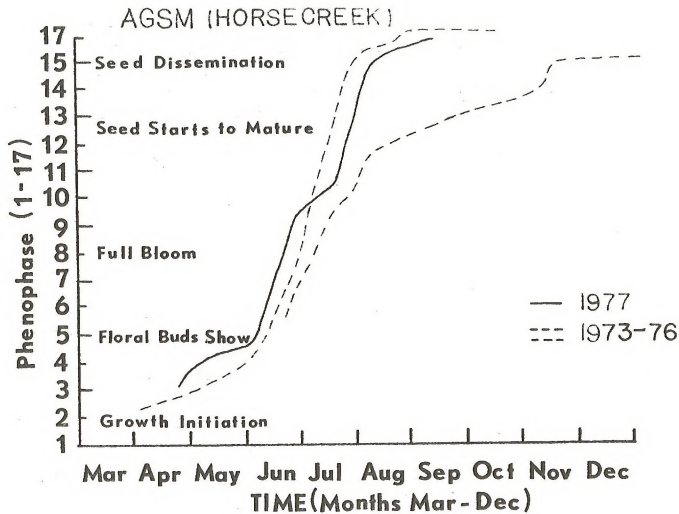
	<u>Page</u>
AGSM - <i>Agropyron smithii</i>	300
AGSP - <i>Agropyron spicatum</i>	311
ARNO - <i>Artemisia nova</i>	317
ARTR - <i>Artemisia tridentata</i>	320

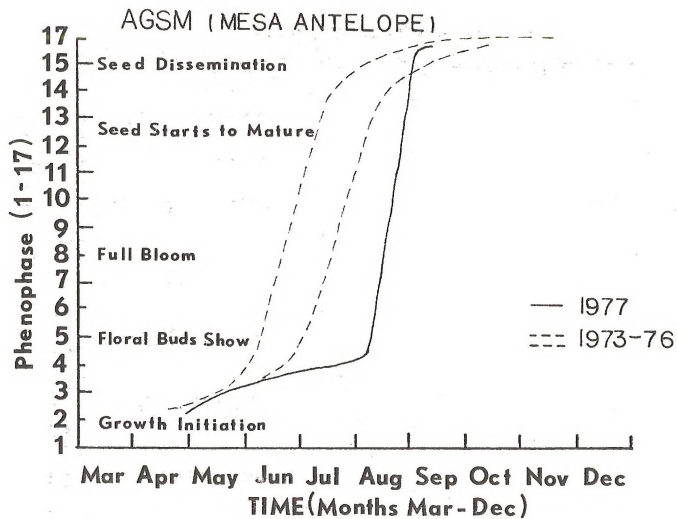


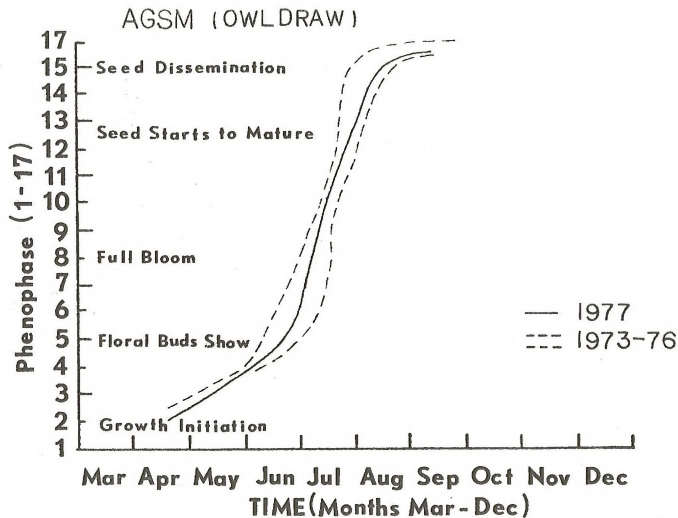


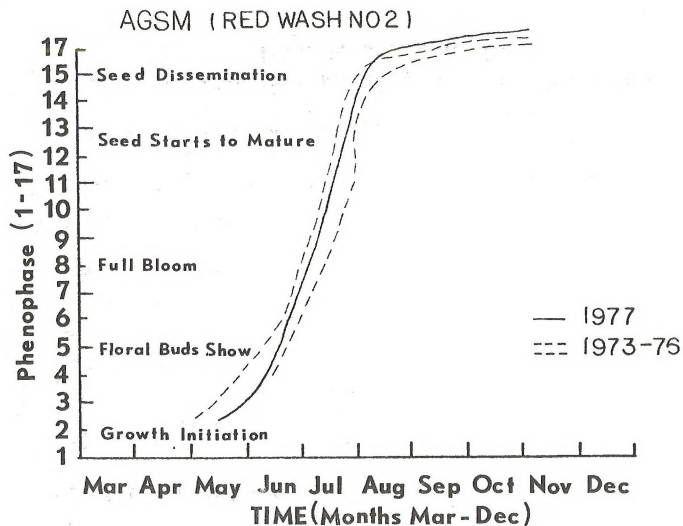


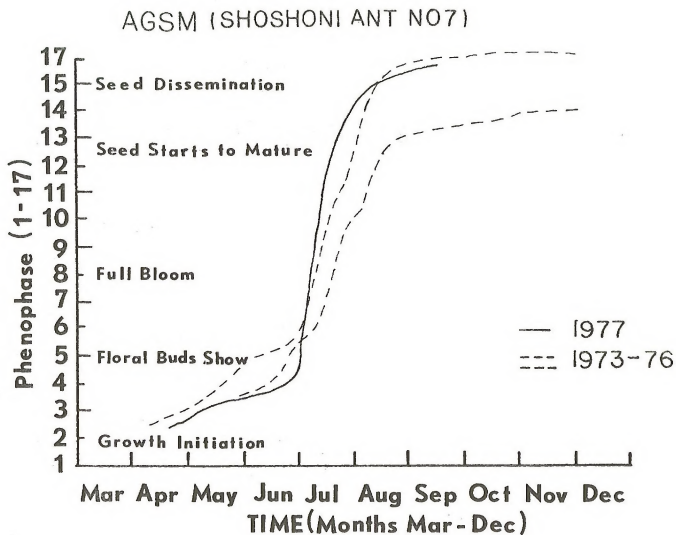


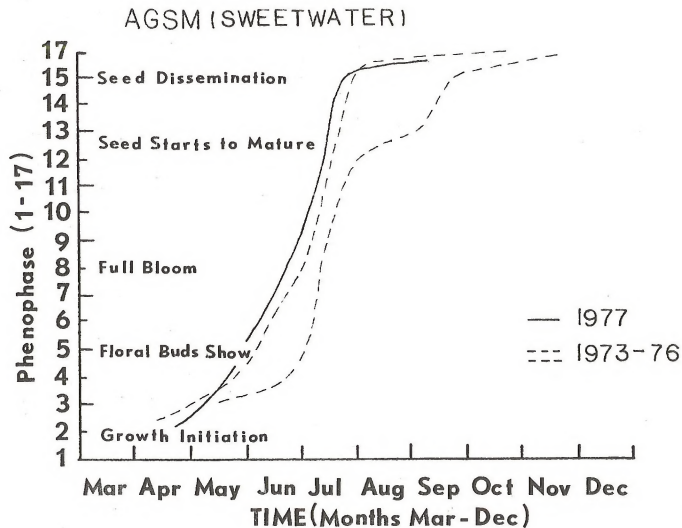


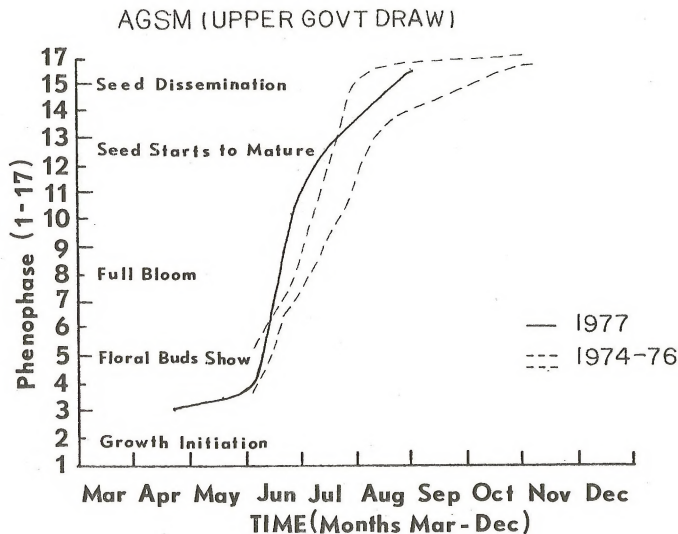


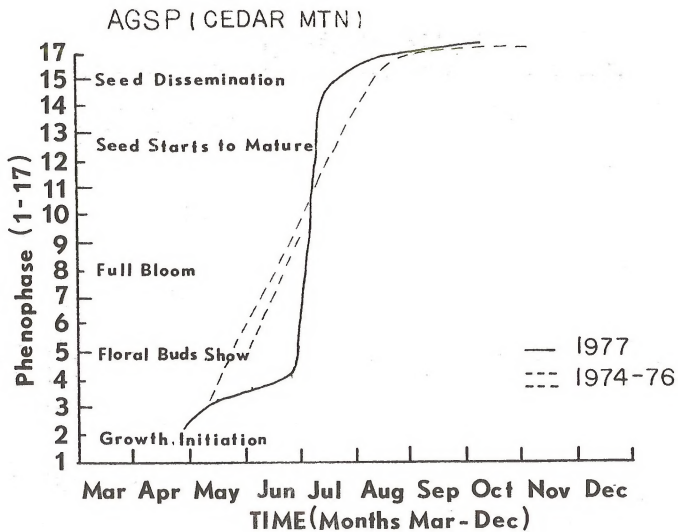


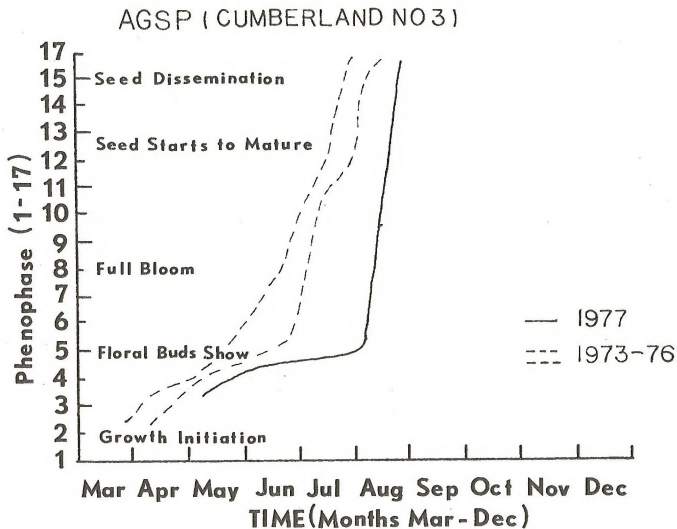


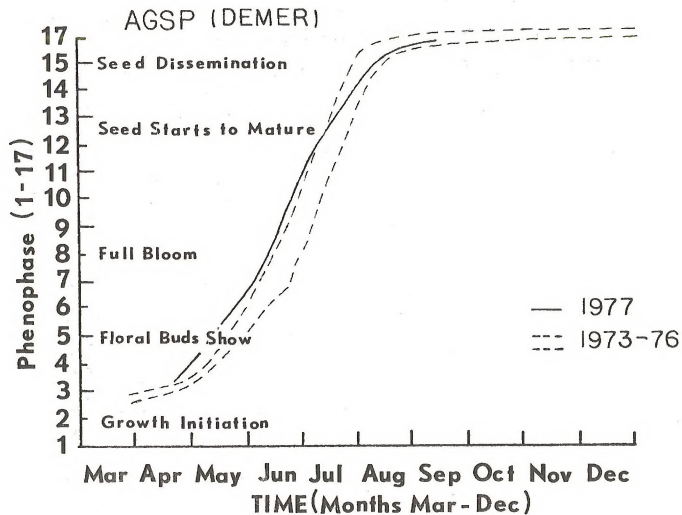


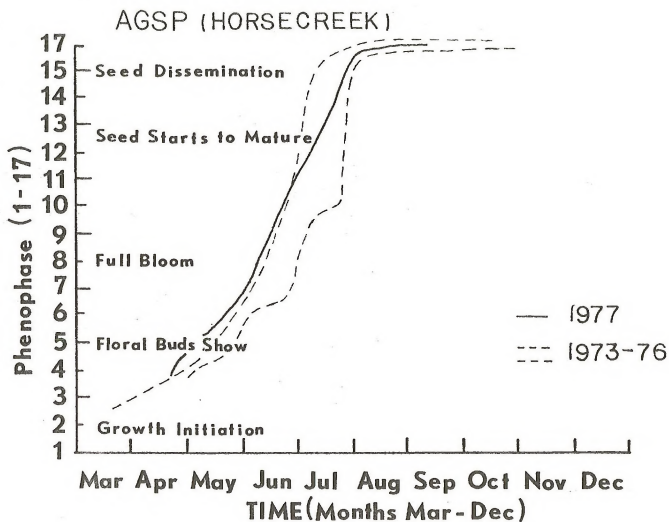


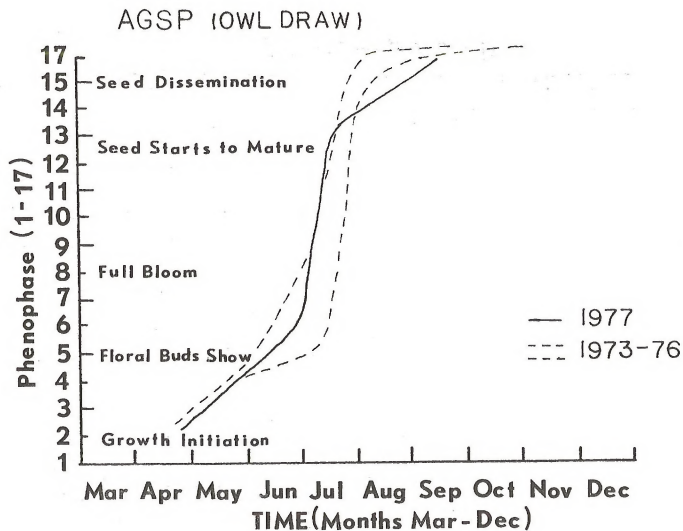


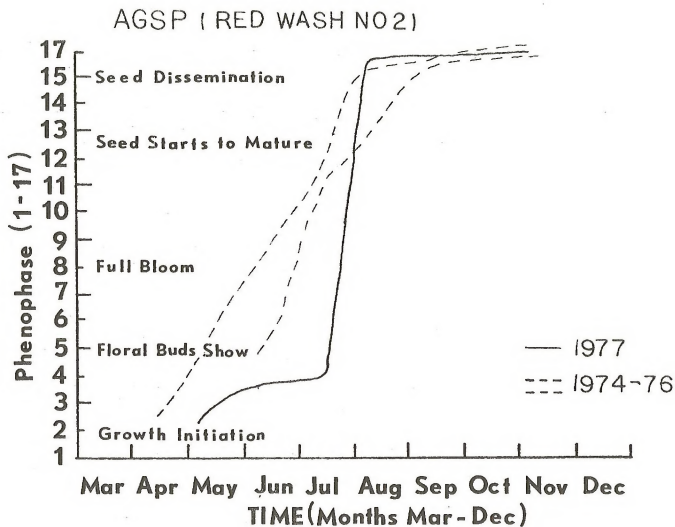


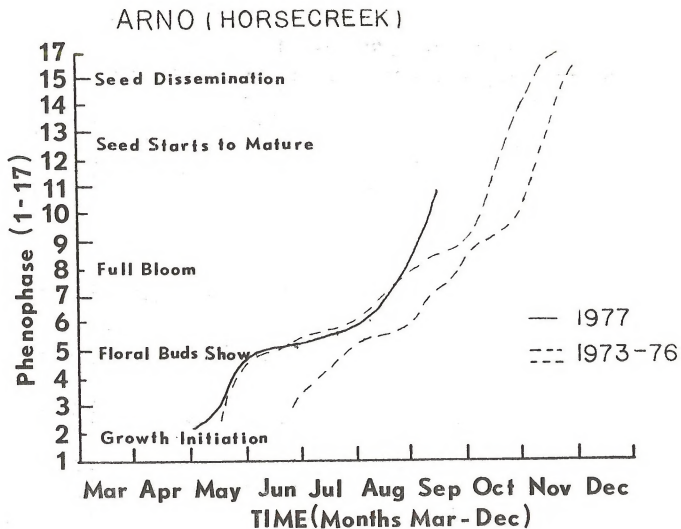


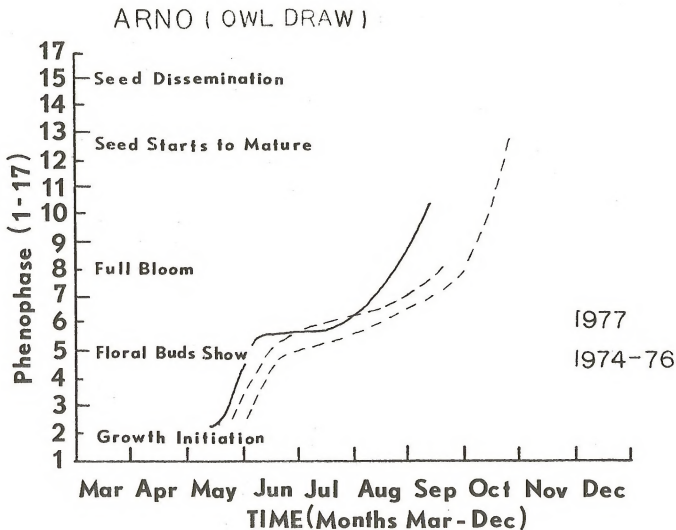


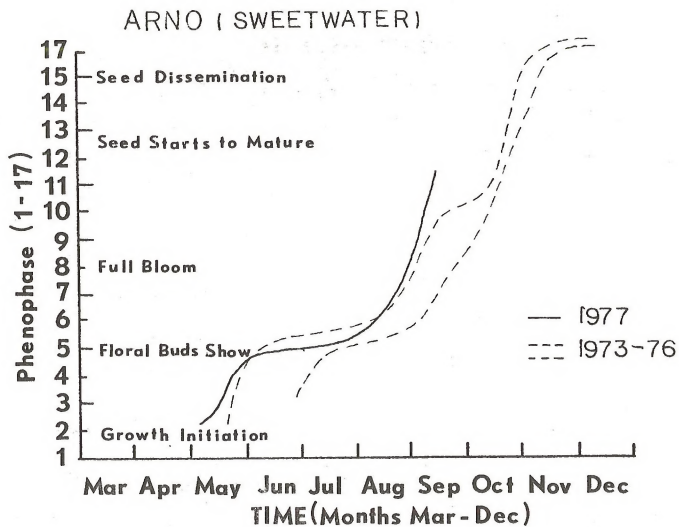


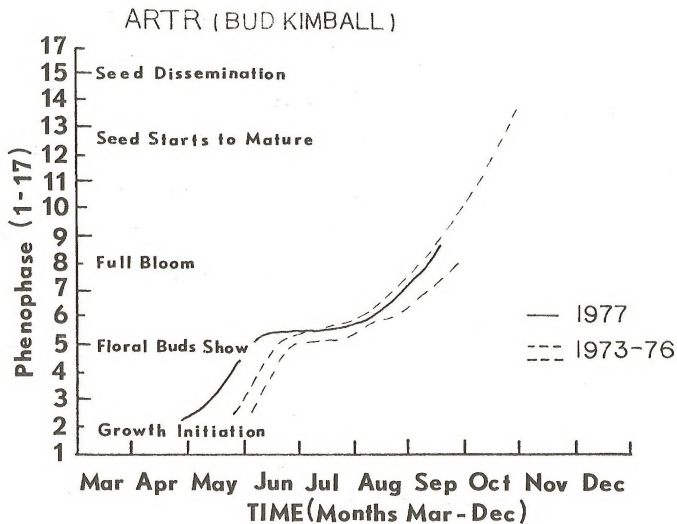


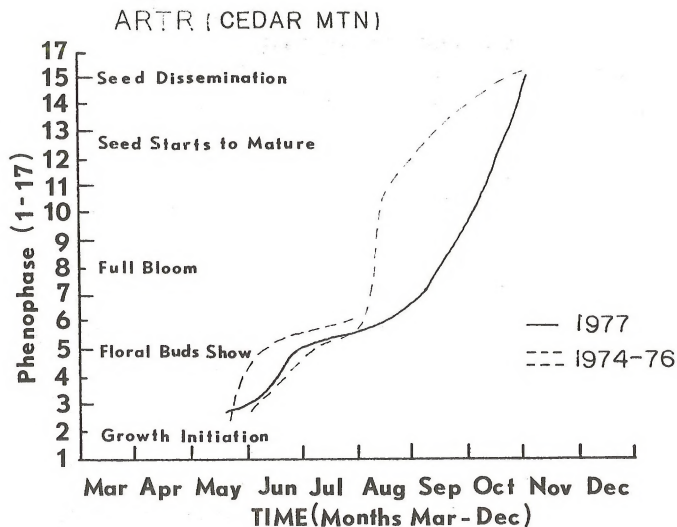


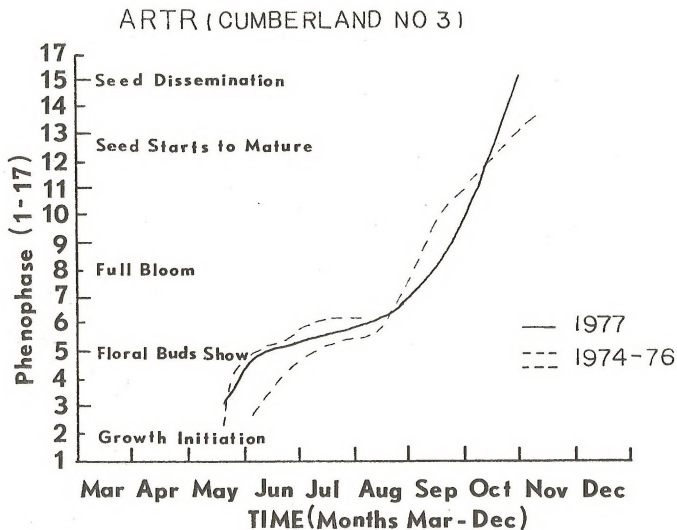


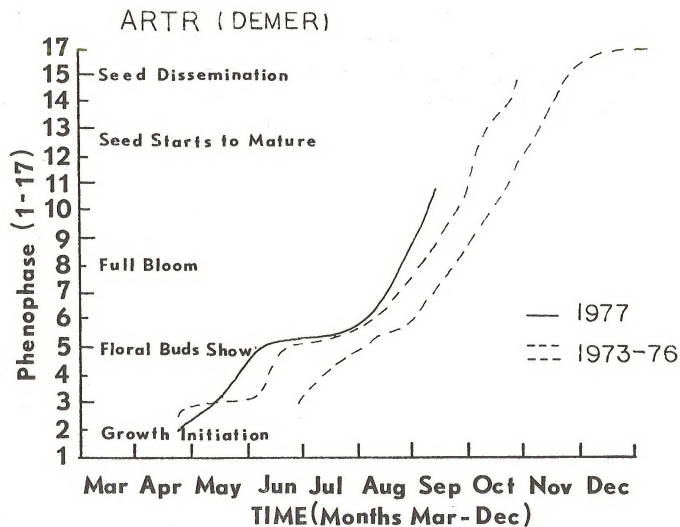


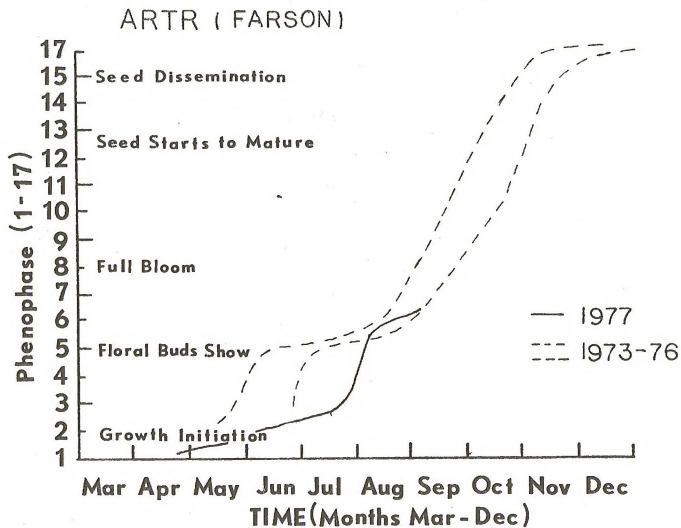


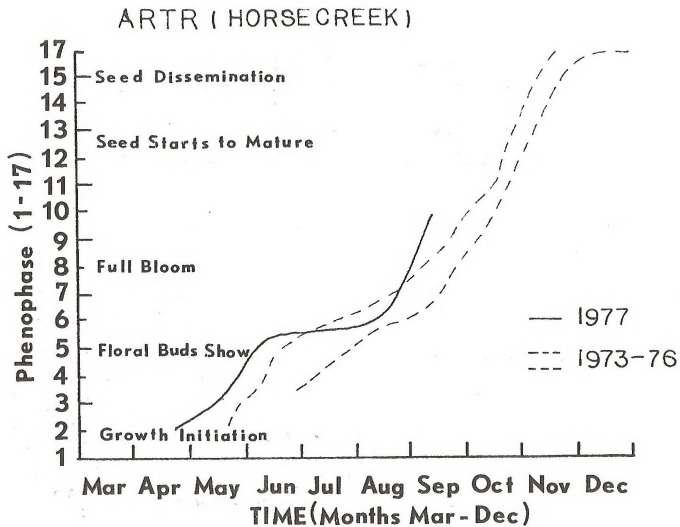


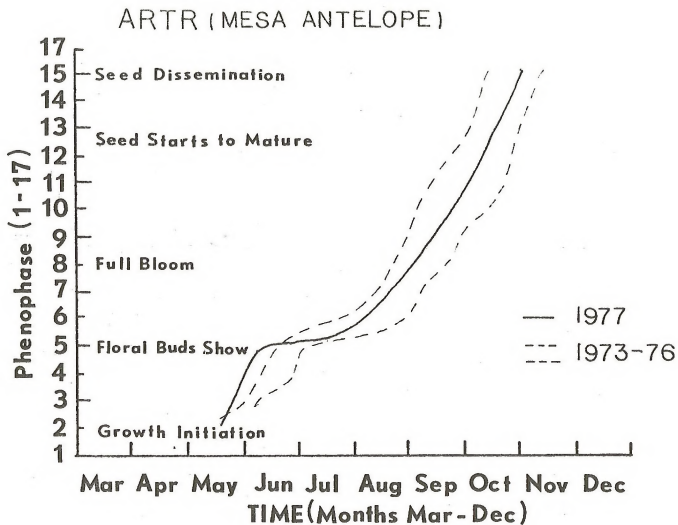


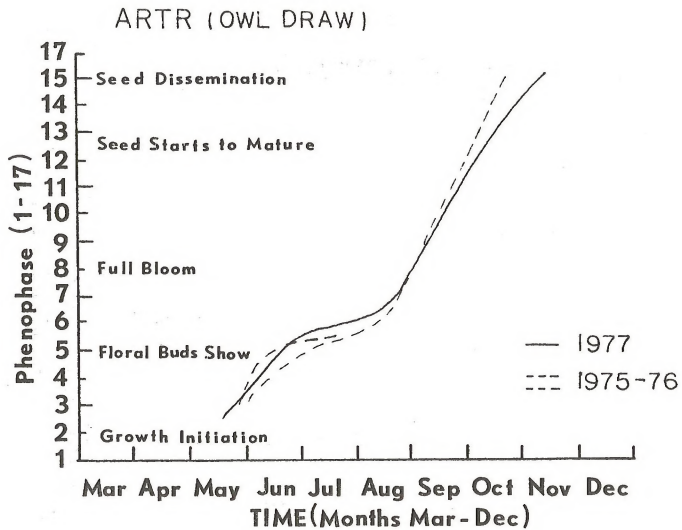


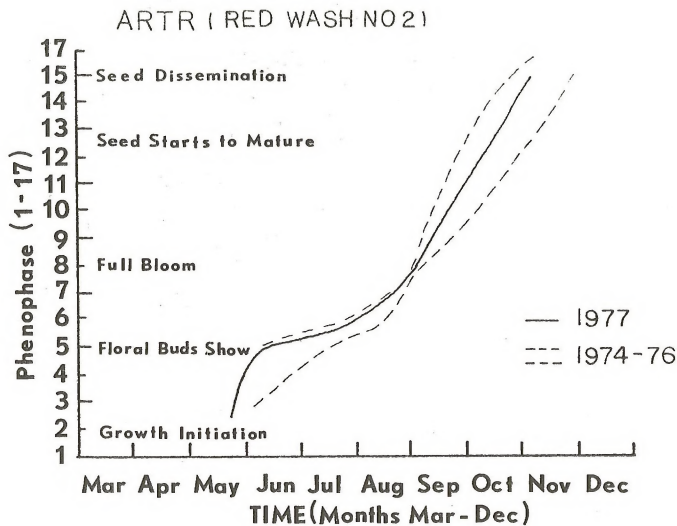




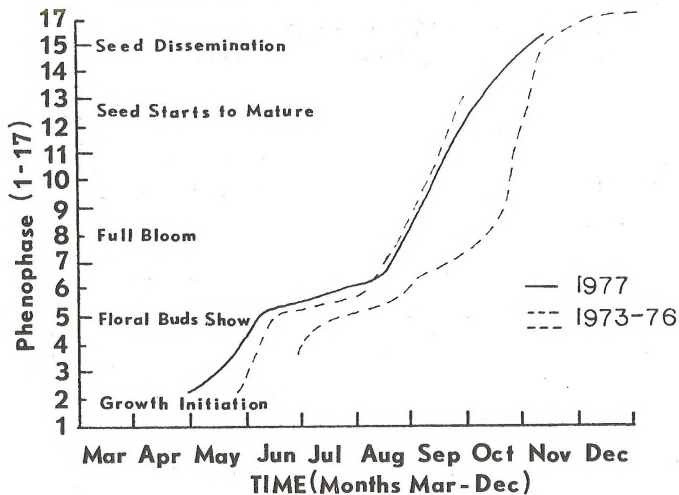


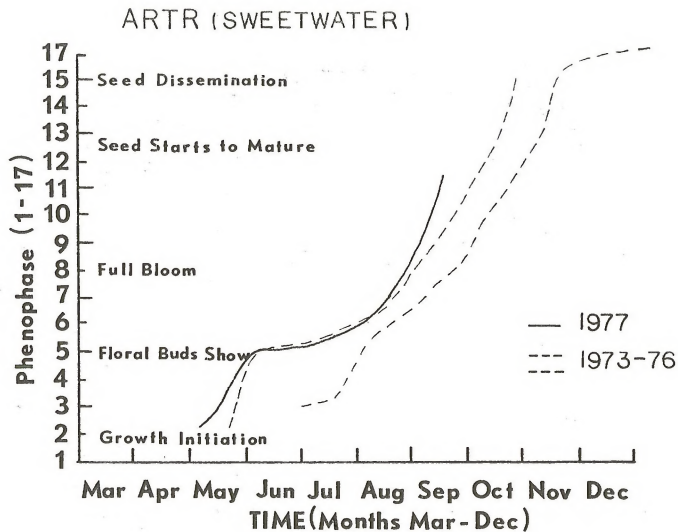




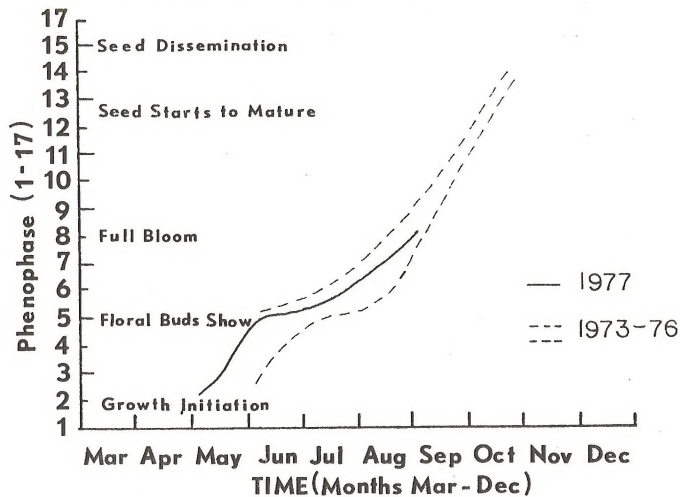


ARTR (SHOSHONI NO 7)





ARTR (UPPER GOVT DRAW)



SECTION II

STEP-WISE REGRESSION FOR PREDICTIVE MODELING

Introduction

1977

The phenological and environmental data were analyzed by multiple linear step-wise regression. The object was to determine the important cause and effect relationships and correlations between environmental factors and plant development. Two grass species, Agropyron smithii and Agropyron spicatum and two shrubs species, Artemisia nova and Artemisia tridentata were analyzed.

The step-wise model selected the independent variables for which the linear relationship with the dependent variable was significant. The significance of the multiple regression of all selected independent variables on the dependent variable was tested by analysis of variance. The significances of partial regressions of individual selected independent variables on the dependent variable was tested by a t-test. All independent variables significant at less than 75% confidence ($\alpha > .25$) were rejected from the analysis. The regression model used was

$$Y = B_0 + B_1 X_{i1} + B_2 X_{i2} + \dots B_k X_{ik} + e_i$$

In this model Y was the dependent variable and represented the reproductive or vegetative phenological stage of the plant. The Y -intercept or theoretical starting point for phenological development was B_0 .

Because B_0 was mathematically a result of the slopes of all regression lines used in the model and not directly the result of growth initiation observed in the field it is of little or no interpretive value. The regression coefficients B_i are the slopes or trends of the regression lines for change in Y per unit change of each corresponding selected independent variable X_i . The value of each B_i multiplied by the corresponding data point X_i and that quantity added to B_0 predicts the phenological stage Y of the plant. Negative regression coefficients were calculated when phenological advancement accompanied a decrease in the value of the independent variable. Such relationships tend to slow or prolong plant development. All variables used in the model are listed in Table I.

Simple correlation coefficients for each of the four prime species (Table II a, b, c, d) measured the degree to which any two variables coincided. No distinction was made between independent and dependent variables. In contrast to regression coefficients, simple correlation coefficients imply no cause and effect relationship.

Annual progress reports of summarized production and precipitation data were initiated in 1962. The phenology and production studies were integrated into the early arid land ecology program in 1973 and those data were presented in annual progress reports for the 1973, 1974, 1975, and 1976 data. Included in the 1976 annual report was a new section of stepwise regression analysis for predictive modeling of phenodynamics. The citation for the cooperative research report of the 1976 data is:

Fisser, H. G., L. W. Young, J. E. Orpet, and N. E. Hargis.
1977. Phenology and production studies on semi-arid shrub types. 1976 Results. University of Wyoming
Coop. Res. Report to the BLM. Sec. I, II, III, IV.
Wyo Agr. Exp. Sta. Scientific Report No. 930. 438pp.

The data from each year will be analyzed individually until adequate time has elapsed for significant interpretation probability with combined multiple year analysis.

TABLE I. Independent and dependent variables used in step-wise multiple regression analysis.

Variable No.	
1	Soil temperature at 38 cm depth on pheno. sampling date ($^{\circ}\text{C}$)
2	Soil moisture % at 0-15 cm depth on pheno. sampling date
3	Soil moisture % at 15-30 cm depth on pheno. sampling date
4	Soil moisture % at 46-61 cm depth on pheno. sampling date
5	Soil moisture % at 0-15 cm depth one month previous
6	Soil moisture % at 15-30 cm depth one month previous
7	Soil moisture % at 46-61 cm depth one month previous
8	Yearly precipitation total accumulation (mm)
9	Oct. 15 - April 15 precipitation accumulation (mm)
10	April 15 - July 1 precipitation accumulation (mm)
11	July 1 - Sept. 1 precipitation accumulation (mm)
12	Sept. 1 - Oct. 15 precipitation accumulation (mm)
13	Total forage production (kg./Ha./yr.)
14	Species forage production (kg./Ha./yr.)
15	Air temperature on pheno. sampling date ($^{\circ}\text{C}$)
16	Maximum air temperature since last sampling date ($^{\circ}\text{C}$)
17	Minimum air temperature since last sampling date ($^{\circ}\text{C}$)
18	Reproductive phenophase value
19	Vegetative phenophase value

Table IIa. Simple correlation matrix of all variables used in the study of Agropyron smithii.

VARIABLE NUMBER	1	2	3	4	5	6	7	8	9	10
1	1.0000	-.3163	-.3909	-.1769	.0719	-.0229	.1361	-.0474	.1432	.1979
2		1.0000	.5572	.2155	-.0203	-.0801	-.2010	-.0047	-.0462	.0724
3			1.0000	.5384	.0208	.1440	-.0573	.3257	.2484	.2616
4				1.0000	-.1552	-.0652	-.1333	.3900	.2050	.1132
5					1.0000	.4359	.2009	.0903	-.1330	.0294
6						1.0000	.4871	.3239	.2830	.2560
7							1.0000	.4179	.2362	.1289
8								1.0000	.3908	.4482
9									1.0000	.6926
10										1.0000
VARIABLE NUMBER	11	12	13	14	15	16	17	18	19	
1	-.2219	.1453	.0101	.1255	-.8153	.6056	-.6184	#####	.1438	
2	-.0284	.0826	-.2204	.0724	-.2625	-.3810	-.1729	#####	-.2018	
3	.0768	.2829	-.1295	.3628	-.3058	-.6533	-.1667	#####	-.1945	
4	.2452	.1705	.1439	.2281	-.2215	-.4107	-.0884	#####	-.0947	
5	.1268	.0951	-.2299	.0552	.0666	-.0729	.1537	#####	-.1519	
6	.0641	.2684	-.0218	.3442	-.0383	-.2312	.0523	#####	-.1320	
7	.2514	.1868	.2021	.2414	.1185	.0036	.1315	#####	-.0224	
8	.5890	.6387	.0759	.6829	-.0380	-.4415	.1897	#####	.0109	
9	-.4098	.5133	.2802	.7608	.0421	-.1830	.0126	.0000	.0503	
10	-.4131	.9433	-.1467	.9155	.0982	-.2234	.3091	.0000	.0639	
11	1.0000	-.1170	.0477	-.1518	-.1127	-.2424	.0040	.0000	-.0467	
12		1.0000	-.1917	.8993	.0747	-.2967	.3671	.0000	.0529	
13			1.0000	-.1998	-.0795	.2062	-.2829	#####	-.0107	
14				1.0000	.0687	-.3812	.2858	#####	.0550	
15					1.0000	.3800	.4789	#####	.1143	
16						1.0000	.3119	#####	.2561	
17							1.0000	#####	.3890	
18								.0000	#####	
19									1.0000	

Table IIb. Simple correlation matrix of all variables used in the study of *Agropyron spicatum*.

[illegible]

Table IIc. Simple correlation matrix of all variables used in the study of *Artemisia nova*.

VARIABLE NUMBER	1	2	3	4	5	6	7	8	9	10
1	1.0000	-.6062	-.4510	-.5305	-.2338	-.2295	-.1165	.2851	.2849	.2849
2		1.0000	.9274	.6763	-.1348	-.0599	-.2808	.1337	.1337	.1338
3			1.0000	.7029	-.2853	-.2012	-.4481	.2162	.2161	.2161
4				1.0000	-.2210	-.2158	-.2679	-.2022	-.2021	-.2021
5					1.0000	.8741	.6059	.0120	.0120	.0120
6						1.0000	.6264	.1310	.1310	.1310
7							1.0000	-.2548	-.2548	-.2547
8								1.0000	1.0003	1.0003
9									1.0000	1.0000
10										1.0000
VARIABLE NUMBER	11	12	13	14	15	16	17	18	19	
1	-.2849	.2849	-.2849	-.2849	.8467	.4434	.7927	.0138	.5903	
2	-.1338	.1338	-.1338	-.1338	-.4645	-.5178	-.3403	-.2366	-.4925	
3	-.2161	.2161	-.2161	-.2161	-.3442	-.4714	-.2203	-.2602	-.4323	
4	.2021	-.2021	.2021	.2021	-.3859	-.2036	-.5330	-.3359	-.5673	
5	-.0120	.0120	-.0120	-.0120	-.3342	-.1679	-.0930	.3105	.0909	
6	-.1310	.1310	-.1310	-.1310	-.3039	-.2197	-.0328	.3318	.0866	
7	.2548	-.2548	.2548	.2548	-.1467	.0950	-.0918	.1675	.1965	
8	-1.0003	1.0003	-1.0003	-1.0003	.2153	-.6024	.6148	-.0032	.1286	
9	-1.0000	1.0000	-1.0000	-1.0000	.2152	-.6023	.6146	-.0032	.1286	
10	-1.0000	1.0000	-1.0000	-1.0000	.2152	-.6023	.6146	-.0032	.1286	
11	1.0000	-1.0000	1.0000	1.0000	-.2152	.6023	-.6146	.0032	-.1286	
12		1.0000	-1.0000	-1.0000	.2152	-.6023	.6146	-.0032	.1286	
13			1.0000	1.0000	-.2152	.6023	-.6146	.0032	-.1286	
14				1.0000	-.2152	.6023	-.6146	.0032	-.1286	
15					1.0000	.4269	.6451	-.2589	.3331	
16						1.0000	.0847	.2825	.4218	
17							1.0000	.1012	.6638	
18								1.0000	.6282	
19									1.0000	

Table IID. Simple correlation matrix of all variables used in the study of Artemisia tridentata.

VARIABLE NUMBER	1	2	3	4	5	6	7	8	9	10
1	1.0000	-.4424	-.3914	-.1647	.0662	-.0335	.1913	-.0452	.1479	.1899
2		1.0000	.6490	.3467	.1314	.0687	-.0512	.0836	-.0980	.1609
3			1.0000	.5348	.0892	.1597	.0080	.3308	.2351	.3096
4				1.0000	.0628	.2043	.0141	.4278	.1677	.2370
5					1.0000	.4918	.2368	.0809	-.1606	.0667
6						1.0000	.4864	.3232	.2647	.3040
7							1.0000	.4559	.1972	.2631
8								1.0000	.3908	.4482
9									1.0000	.6926
10										1.0000

VARIABLE NUMBER	11	12	13	14	15	16	17	18	19
1	-.2167	.1368	.0984	-.0651	.8117	.6120	.6461	-.2504	.1334
2	.0290	.2144	-.3172	-.0483	-.3657	-.5587	-.2472	-.2578	-.2181
3	.2593	.3352	-.2339	-.3962	-.2758	-.6616	-.1839	-.2828	-.2843
4	.2261	.3140	-.1616	-.3655	-.1757	-.5212	.0660	-.2413	-.1174
5	.1067	.1367	-.3227	-.0007	.3807	-.1095	.1683	-.3187	-.2565
6	.0428	.3205	-.1283	-.3862	-.0602	-.2639	.0827	-.0785	-.0211
7	.2271	.3413	-.1149	-.3871	.1950	-.0437	.2386	-.0468	.0175
8	.5890	.6387	.0507	-.7282	-.0380	-.4415	.1559	-.2083	-.1393
9	-.4078	.5133	.3342	-.8611	.0421	-.1830	-.0328	.1220	.1178
10	-.4131	.9433	.0818	-.7054	.0982	-.2234	.2626	.0600	.1698
11	1.0000	-.1170	-.1349	-.6641	.0207	-.1127	-.2424	.0153	-.2875
12		1.0000	.0209	-.0095	.0747	-.2967	.3237	-.0388	.0957
13			1.0000	.0095	-.0448	.2331	-.1980	.0868	.0452
14				1.0000	-.0281	.4058	-.0944	.0207	-.0158
15					1.0000	.3800	.4932	-.4039	-.0263
16						1.0000	.3607	.1975	.3095
17							1.0000	-.0282	.4620
18								1.0000	.6499
19									1.0000

Analyses for *Agropyron smithii*

Reproductive phenology. No reproduction occurred on the *Agropyron smithii* plants sampled. For that reason, no correlation or regression coefficients were calculated. Individual plants of this species do not produce a seed head every year. Further, entire stands may be composed only of vegetative plants. *Agropyron smithii* is rhizomatous and does not form clumps. Therefore, if the permanently located plant does not form a seed head, no reproductive score can be obtained. This is in contrast to *Agropyron spicatum*, which forms clumps from which an aggregate reproductive score for the clump can be obtained from the 10-50 percent of the culms in the clump that form a seed head. In 1976, (Fisser, et al., 1976) air temperature (X_{15} , X_{16}) was found to be the most important environmental factor affecting reproductive phenology of *Agropyron smithii*, and was followed by percent soil moisture at 46-61cm depth (X_4 , X_7).

Vegetative phenology. Eight independent variables were significant in the regression analysis of the vegetative phenology of *Agropyron smithii* (Table III). The estimated multiple linear regression equation was:

$$Y_{19} = 2.85 - .18X_1 - .05X_2 - .05X_5 - .07X_6 + .006X_9 + .04X_{15} \\ + .09X_{16} + .08X_{17}$$

where Y_{19} = vegetative phenophase.

Four factors promoted phenological advancement: October 15 - April 15 precipitation accumulation (X_9), air temperature on the phenological sampling date (X_{15}), maximum air temperature since the last sampling date (X_{16}), and minimum air temperature since the last sampling date (X_{17}). Four variables slowed or prolonged phenological advancement: soil temp-

erature at 38cm depth (X_1), percent soil moisture at 0-15cm depth (X_2), percent soil moisture at 0-15cm depth on the previous sampling date (X_5), and percent soil moisture at 15-30cm depth on the previous sampling date (X_6).

Significances of the partial regression coefficients are given in Table III. The multiple regression was tested by analysis of variance and found highly significant ($P < .001$). The eight independent variables selected accounted for 31.41 percent of the variability in vegetative phenophase value ($R^2 = .3141$). The remaining variability is explainable only by factors not measured in this study.

TABLE III. Descriptions and significances of independent variables used in the analysis of vegetative phenology of Agropyron smithii.

Variable	Description	Significance (t- ratio)
1	Soil temperature 38cm depth (°C)	-3.15 ⁴
2	Soil moisture % 0-15cm depth	-1.35 ²
5	Soil moisture % 0-15cm depth on previous sampling date	-1.14 ¹
6	Soil moisture % 15-30cm depth on previous sampling date	-1.07 ¹
9	October 15 - April 15 precipitation accumulation (mm)	2.03 ³
15	Air temperature (°C)	1.32 ²
16	Maximum air temperature since last sampling date (°C)	2.79 ⁴
17	Minimum air temperature since last sampling date (°C)	5.50 ⁵

¹Significant at .85 level

²Significant at .90 level

³Significant at .975 level

⁴Significant at .995 level

⁵Significant at .9995 level

Analysis for Agropyron spicatum

Reproductive Phenology. Nine independent environmental variables were significant in the regression analysis of reproductive phenology of Agropyron spicatum (Table IV). The estimated multiple linear regression equation was:

$$Y_{18} = 4.70 - .27X_1 - .51X_3 - .41X_5 - .44X_6 - .40X_7 + .02X_8 - .20X_{15} \\ + .26X_{16} + .27X_{17}$$

where Y_{18} = reproductive phenophase value.

Phenological advancement was promoted by three factors: yearly precipitation accumulation (X_8), maximum air temperature since the previous sampling date (X_{16}), and minimum air temperature since the previous sampling date (X_{17}). Phenological advancement was slowed or prolonged by six factors: soil temperature ($^{\circ}\text{C}$) at 38cm depth (X_1), percent soil moisture at 15-30cm depth (X_3), percent soil moisture at 0-15cm depth on the previous sampling date (X_5), percent soil moisture at 15-30cm depth on the previous sampling date (X_6), percent soil moisture at 46-61cm depth on the previous sampling date (X_7), and air temperature on the sampling date (X_{17}).

Significances of the partial regression coefficients are given in Table IV. The multiple regression was tested by analysis of variance and found to be highly significant ($P < .001$). The nine independent variables selected accounted for 74.72% of the variability in reproductive phenophase value ($R^2 = .7472$).

Vegetative Phenology. Nine independent variables, eight of which were environmental, were significant in the regression analysis of

vegetative phenology of *Agropyron spicatum* (Table V). The estimated multiple linear regression equation was:

$$Y_{19} = 2.18 - .04X_2 - .12X_3 - .07X_5 - .07X_6 - .09X_7 + .02X_{13} - .08X_{15} \\ + .04X_{16} + .04X_{17}$$

where Y_{19} = vegetative phenophase value.

Two factors promoted phenological advancement: maximum air temperature since the previous sampling date (X_{16}) and minimum air temperature since the previous sampling date (X_{17}). Six factors slowed or prolonged phenological advancement: percent soil moisture at 0-15cm depth (X_2), percent soil moisture at 15-30cm depth (X_3), percent soil moisture at 0-15cm depth on the previous sampling date (X_5), percent soil moisture at 15-30cm depth on the previous sampling date (X_6), percent soil moisture at 46-61cm depth on the previous sampling date (X_7), and air temperature on the sampling date (X_{15}).

The relationship between forage production (X_{13}) and vegetative phenology was probably one of coincidence and not cause and effect.

Significances of partial regression coefficients are given in Table V. The multiple regression was tested by analysis of variance and found to be highly significant ($P < .001$). The nine independent variables selected accounted for 79.80% of the variability in vegetative phenophase value ($R^2 = .7980$).

Table IV. Descriptions and significances of independent variables used in the analysis of reproductive phenology of Agropyron spicatum.

Variable	Description	Significance (t-ratio)
1	Soil temp. 38cm depth (°C)	-2.43 ²
3	Soil moisture % 15-30cm depth	-2.33 ²
5	Soil moisture % 0-15cm depth on previous sampling date	-2.72 ³
6	Soil moisture % 15-30cm depth on previous sampling date	-2.09 ²
7	Soil moisture % 46-61cm depth on previous sampling date	-1.95 ¹
8	Yearly precip. accumulation (ml)	3.73 ⁴
15	Air temp. (°C)	-2.08 ²
16	Max. air temp. since previous sampling date (°C)	1.74 ¹
17	Min. air temp. since previous sampling date (°C)	3.86 ⁴

¹Significant at .95 level.

²Significant at .975 level.

³Significant at .99 level.

⁴Significant at .9995 level.

Table V. Descriptions and significances of independent variables used in the analysis of vegetative phenology of Agropyron spicatum.

Variables	Description	Significance (t-ratio)
2	Soil moisture % 0-15cm depth	-1.09 ¹
3	Soil moisture % 15-30cm depth	-2.83 ⁵
5	Soil moisture % 0-15cm depth on previous sampling date	-2.22 ⁴
6	Soil moisture % 15-30cm depth on previous sampling date	-1.86 ³
7	Soil moisture % 46-61cm depth on previous sampling date	-2.36 ⁴
13	Total forage production (kg/ha/yr)	4.75 ⁶
15	Air temperature (°C)	-4.72 ⁶
16	Maximum air temperature since previous sampling date (°C)	1.62 ²
17	Minimum air temperature since previous sampling date (°C)	3.01 ⁵

¹Significant at .85 level.

²Significant at .90 level.

³Significant at .95 level.

⁴Significant at .975 level.

⁵Significant at .995 level.

⁶Significant at .9995. level.

Analysis for Artemisia nova

Reproductive Phenology. Five independent environmental variables were significant in the regression analysis of reproductive phenology of *Artemisia nova* (Table VI). The estimated multiple linear regression equation was:

$$Y_{18} = -21.11 - .15X_4 + .07X_6 + .02X_8 - .29X_{15} + .45X_{16}$$

where Y_{18} = reproductive phenophase value

Three factors promoted phenological advancement: percent soil moisture at 15-30cm depth on the previous sampling date (X_6), yearly precipitation total accumulation (X_8), and maximum air temperature since the previous sampling date (X_{16}). Two factors slowed or prolonged phenological advancement: percent soil moisture at 46-61cm depth (X_4) and air temperature on the sampling date (X_{15}).

Significances of the partial regression coefficients are give in Table VI. The multiple regression was tested by analysis of variance and found to be highly significant ($P < .001$). The five independent variables selected accounted for 75.65% of the variability in reproductive phenophase value ($R^2 = .7565$).

Vegetative Phenology. Five independent environmental variables were significant in the regression analysis of vegetative phenology of *Artemisia nova* (Table VII). The estimated multiple linear regression equation was:

$$Y_{19} = 1.92 - .04X_4 + .03X_7 - .07X_{15} + .10X_{16} + .08X_{17}$$

where Y_{19} - vegetative phenophase value.

Three factors promoted phenological advancement: percent soil moisture at 46-61cm depth on the previous sampling date (X_7), maximum air temperature since the previous sampling date (X_{16}), and minimum air temperature since the previous sampling date (X_{17}). Two factors slowed or prolonged phenological advancement: percent soil moisture at 46-61cm depth (X_4) and air temperature on the sampling date (X_{15}).

Significances of the partial regression coefficients are give in Table VII. The multiple regression was tested by analysis of variance and found to be highly significant ($P < .001$). The five independent variables selected accounted for 73.76% of the variability in vegetative phenophase value ($R^2 = 7376$).

Table VI. Descriptions and significances of independent variables used in the analysis of reproductive phenology of Artemisia nova.

Variable	Description	Significant (t-ratio)
4	Soil moisture % 46-61cm depth	-2.92 ²
6	Soil moisture % 15-30cm depth on previous sampling date	1.06 ¹
8	Yearly precip. total accumulation (mm)	6.36 ³
15	Air temp. (°C)	-8.24 ³
16	Max. air temp. since previous sampling date (°C)	8.22 ³

¹Significant at .85 level.

²Significant at .995 level.

³Significant at .9995 level.

Table VII. Description and significances of independent variables used in the analysis of vegetative phenology of Artemisia nova.

Variable	Description	Significant (t-ratio)
4	Soil moisture % 46-61cm depth	-1.49 ²
7	Soil moisture % 46-61cm depth on previous sampling date	1.18 ¹
15	Air temp. (°C)	-3.71 ³
16	Max. air temp. since previous sampling date (°C)	5.09 ³
17	Min. air temp. since previous sampling date (°C)	6.59 ³

¹Significant at .85 level.

²Significant at .90 level.

³Significant at .9995 level.

Analysis for Artemisia tridentata

Reproductive Phenology. Eleven independent environmental variables and one variable representing forage production were significant in the regression analysis of reproductive phenology of Artemisia tridentata (Table VIII). The estimated multiple linear regression equation was:

$$Y_{18} = 13.87 - .22X_1 - .23X_2 - .24X_3 - .15X_5 - .09X_6 + .15X_7 + .004X_8 \\ - .01X_{11} - .007X_{13} - .11X_{15} + .08X_{16} + .06X_{17}$$

where Y_{18} = reproductive phenophase value.

Four factors promoted phenological advancement: percent soil moisture at 46-61cm depth on the previous sampling date (X_7), yearly precipitation total accumulation (X_8), maximum air temperature since the previous sampling date (X_{16}), and minimum air temperature since the previous sampling date (X_{17}). Seven factors slowed or prolonged phenological advancement: soil temperature at 38cm depth (X_1), percent soil moisture at 0-15cm depth (X_2), percent soil moisture at 15-30cm depth (X_3), percent soil moisture at 0-15cm depth on the previous sampling date (X_5), percent soil moisture at 15-30cm depth on the previous sampling date (X_6), July 1- September 1 precipitation accumulation (X_{11}), and air temperature on the sampling date (X_{15}). The relationship between total forage production (X_{13}) and reproductive phenology was probably one of coincidence rather than cause and effect.

Significances of the partial regression coefficients are given in Table VIII. The multiple regression was tested by analysis of variance and found to be highly significant ($P < .001$). The eleven independent variables selected accounted for 69.45% of the variability in reproductive

phenophase value ($R^2 = .6945$).

Vegetative Phenology. Seven independent environmental variables were significant in the regression analysis of vegetative phenology of *Artemisia tridentata* (Table IX). The estimated multiple linear regression equation was:

$$Y_{19} = 4.74 - .11X_1 - .11X_3 - .07X_5 + .003X_9 - .002X_{11} + .03X_{16} + .03X_{16} + .07X_{17}$$

where Y_{19} = vegetative phenophase value.

Three factors promoted phenological advancement: October 15 - April 15 precipitation accumulation (X_9), maximum air temperature since the previous sampling date (X_{16}), and minimum air temperature since the previous sampling date (X_{17}). Four factors slowed or prolonged phenological advancement: soil temperature at 38cm depth (X_1), percent soil moisture at 15-30cm depth (X_3), percent soil moisture at 0-15cm depth on the previous sampling date (X_5), and July 1- September 1 precipitation accumulation (X_{11}).

Significances of the partial regression coefficients are give in Table IX. The multiple regression was tested by analysis of variance and found to be highly significant ($P < .001$). The seven independent variables selected accounted for 61.36% of the variability in vegetative phenophase value ($R^2 = 6136$).

Table VIII. Descriptions and significances of independent variables used in the analysis of reproductive phenology of Artemisia tridentata.

Variable		Significance (t-ratio)
1	Soil temperature 38cm depth ($^{\circ}\text{C}$)	-4.09 ⁶
2	Soil moisture % 0-15cm depth	-3.84 ⁶
3	Soil moisture % 15-30cm depth	-3.22 ⁵
5	Soil moisture % 0-15cm depth on previous sampling date	-3.39 ⁵
6	Soil moisture % 15-30cm depth on previous sampling date	-1.41 ¹
7	Soil moisture % 46-61cm depth on previous sampling date	2.44 ⁴
8	Yearly precip. total accumulation (mm)	2.12 ³
11	July 1 - September 1 precipitation accumulation (mm)	-6.86 ⁶
13	Total forage production (kg/ha/yr)	-2.53 ⁴
15	Air temperature ($^{\circ}\text{C}$)	-4.03 ⁶
16	Maximum air temperature since previous sampling date ($^{\circ}\text{C}$)	1.95 ²
17	Minimum air temperature since previous sampling date ($^{\circ}\text{C}$)	3.57 ⁶

¹Significant at .90 level.

²Significant at .95 level.

³Significant at .975 level.

⁴Significant at .99 level.

⁵Significant at .995 level.

⁶Significant at 9995 level.

Table IX. Descriptions and significances of independent variables used in the analysis of vegetative phenology of Artemisia tridentata.

Variable	Description	Significance (t-ratio)
1	Soil temperature 38cm depth (°C)	-7.06 ³
3	Soil moisture % 15-30cm depth	-3.51 ³
5	Soil moisture % 0-15cm depth on previous sampling date	-3.72 ³
9	October 15 - April 15 precipitation accumulation (mm)	2.59 ³
11	July 1 - September 1 precipitation accumulation (mm)	-3.93 ³
16	Maximum air temperature since pre- vious sampling date (°C)	1.86 ¹
17	Minimum air temperature since pre- vious sampling date (°C)	10.31 ³

¹Significant at .95 level.

²Significant at .99 level.

³Significant at .9995 level.

SECTION III
PRECIPITATION PATTERN STUDY

1977

Introduction

During 1960 over 70 gauges were installed at 6 to 12 mile intervals throughout the Big Horn and Wind River Basins. Since that time approximately 20 gauges in the Big Horn Basin have been discontinued but some additional 100 gauges have been installed at various exclosures and study sites throughout western Wyoming. These gauges are cans, 12" in height and approximately 2.75" in diameter. Precipitation is read to inches of rainfall by measuring the water in ml. The can diameter allows one hundred ml of water to be equal to 1" of precipitation. The gauges are read on the same four dates each year -- April 15, July 1, September 1, and October 15. In the Big Horn Basin, at the urging of BLM personnel, precipitation recording procedures have been increased to eight recordings during a year on the dates March 1, April 15, June 1, July 1, August 1, September 1, October 1, and November 15. For this report data are shown only as having been recorded four times a year. Poor road conditions have been responsible for data omissions from the March and November dates in some instances. Personnel of the Worland, Rawlins, Casper, and Rock Springs Districts of the Bureau of Land Management cooperate with the University in reading the instruments. In the Big Horn Basin the Bureau has acquired small commerical gauges

that have been established at a number of new locations. Some gauges are also read by personnel of the Soil Conservation Service and the Wyoming Game and Fish Commission.

The U. S. Weather Bureau and the U. S. Geological Survey precipitation data are used to provide additional information from other locations. This cooperative effort provides an effective network for future evaluation of precipitation patterns.

Precipitation data for 1977 from the University and BLM gauges are presented in Table I; those from the U. S. Weather Bureau stations are presented in Table II.

Results 1977

Precipitation throughout most of western Wyoming was considerably and consistently below average annual long term values (Table III). This was noticed first during early spring because low winter precipitation with little snow cover and warm early spring temperatures caused early and rapid initiation of plant growth. By mid June the evidence of low spring precipitation and associated warm temperatures was readily noted from the advanced phenological characteristics of the vegetation. Observations on June 19, 1977 showed that (1) Gardner saltbush seeds were dry and shattering, (2) Russian wildrye plants exhibited leaf senescence, except on those that had been able to develop seed heads in which case seed shatter was occurring, (3) sunflowers were in flower but plants only 12" tall, (4) active growth of most species had stopped and most plants were dormant. These conditions, especially in the Big Horn Basin, occurred from two to four weeks earlier than usual and did so because plant growth and development occurred from winter precipitation moisture. Lack of rainfall during the spring growing season forced early senescence and dormancy.

Some variations were noted, at the Carter Divide Exclosure some 20 miles southeast of Riverton, plant growth was phenomenal. Sandberg bluegrass was twelve inches tall, western wheatgrass twenty-four inches tall and birdsfoot sagewort was till green on June 29, 1977. In contrast, herbage growth at the Shoshoni Ant exclosures, ten miles south of Shoshoni and about 20 miles north of the Carter Divide Exclosure, was

almost non-existent. Such extremes of precipitation and resultant plant growth characteristics are common but must be recognized and recorded for efficient management and use of semi-arid rangelands.

Intensive rainstorms can be detrimental. On August 19, 1977 extreme gullying and silt deposition was noted especially along the normally stable road to the Mesa Antelope exclosure which is about 20 miles south of Pinedale. Such late precipitation often does little for plant growth, especially since a large proportion simply runs off when rain fall intensity is high.

Table I. Precipitation data for 1977 from University of Wyoming gauges for the periods October 15-April 15 (winter), April 15-July 1 (spring), July 1-September 1 (summer) and September 1-October 15 (fall).

Rain Gauge No.	Rain Gauge Name	Winter Apr. 15 1977	Spring July 1 1977	Summer Sept 1 1977	Fall Oct. 15 1977	Total 1977	Long Term Average	No. of Years
<u>Big Horn County</u>								
176	Basin Flats Exc.	1.93	1.34	1.54	.25	5.06	6.23	11
123	Big Flat Exc.	1.42	1.37	1.38	.16	4.33	5.83	10
208	Dead Indian BLM 8	GI5/5/77	1.85	1.96	.49	--	--	--
212a	Dorsey Creek BLM 12	GI5/5/77	1.84	1.16	.56	--	--	--
212b	Dorsey Creek UW Gauge	GI6/1/77	.73	.92	.51	--	--	--
211	Elk Creek BLM 11	GI5/5/77	1.23	1.54	.35	--	--	--
194	Emblem Bench	.90	2.00	1.88	.42	5.20	5.20	1
24	Halogeton Exc. #1	.92	1.33	1.32	.30	3.87	5.34	18
167	Halogeton Exc. #2	1.34	1.46	1.33	.30	4.43	5.86	6
168	Halogeton Exc. #3	1.16	1.27	1.24	.28	3.95	5.07	6
12	Horse Creek Exc.	3.53	E2.75	2.03	1.24	E9.55	E11.07	18
113	Horse Haven Exc.	1.84	1.42	1.47	.13	4.86	6.56	11
21	Kane Deer Exc.	3.79	2.48	1.56	1.34	9.17	12.06	13
149	Kane GRI Exc.	3.99	2.60	1.56	1.47	9.62	12.69	10
116	Kane Seed Exc.	1.65	2.29	1.03	1.04	5.99	6.84	10
148	Medicine Lodge GRI Exc.	4.94	3.56	2.06	1.13	11.49	13.90	10
175	Potato Ridge Exc.	2.72	1.46	1.95	.44	7.07	7.85	10
23	Sheep Springs Exc.	4.02	4.17	2.39	1.97	12.55	13.74	17
174	Sheldon Gulch Exc.	2.26	1.40	1.96	.50	6.12	7.36	10
<u>Park County</u>								
207	Beaver Slide BLM 7	GI5/5/77	3.27	1.76	.49	--	--	--
147	Big Sage Exc.	1.23	2.63	.74	.73	5.33	7.67	9
146	Big Sky Exc.	1.80	2.36	.73	.96	5.85	8.31	9
100	Buffalo Basin Exc.	1.35	4.23	1.35	.86	7.79	10.26	11
193	Canyon	.97	4.36	1.48	.44	7.25	8.91	5
145	Hill Top Spring	5.66	ND	ND	.94	--	15.12	7
184	Little Dry Creek	E1.20	3.91	1.30	.48	6.62	7.86	3
192	Skyline	.40	3.02	1.39	ND	--	7.16	3
206	Squaw Teats BLM 6	GI5/5/77	2.25	2.00	.69	--	--	--
191	State Line	.29	2.36	.83	.14	3.62	5.95	4
<u>Washakie County</u>								
1	Ant Hill Worland Exc.	1.63	E2.34	2.13	.23	E6.33	6.42	18
150	Big Trails GRI Exc.	6.32	2.93	2.42	1.20	10.87	12.93	10
41	Bud Kimball Exc.	3.09	3.57	1.38	.99	9.03	9.39	16
7	Buffalo Creek Exc.	3.27	3.25	2.99	1.85	11.36	10.72	15
17	Burnt Wagon Exc.	1.04	1.62	1.72	.23	4.61	6.02	16
179	Chalk Exc. (15)	1.18	1.38	2.29	.20	5.05	6.24	17
8	Demer Exc.	E1.80	E1.90	E2.15	.80	E6.65	8.11	18
4	Butch Nick Flat Exc.	1.39	1.92	2.54	.23	6.08	6.99	17
15	15 Mile Study Area (179)	1.18	1.38	2.29	.20	5.05	6.24	17
177	Hawk Exc.	1.08	1.62	1.65	.36	4.71	6.01	16
166	Mills Burn Exc.	5.57	3.22	2.35	1.36	12.50	12.50	7
185	Rice Burn Exc.	5.73	3.80	1.68	1.09	12.30	13.59	4
180	Sand Creek Exc.	2.31	1.94	.96	.18	5.39	6.53	11
209	Schuster Draw BLM 9	GI5/5/77	1.53	1.42	.56	--	--	--
36	Smilo Exc.	2.01	1.90	2.08	.51	6.50	8.45	17
210	So. Fk. 15 Mile BLM 10	GI5/5/77	1.58	1.75	.63	--	--	--
203	Spring Creek BLM 3	GI5/5/77	.88	ND	.52	--	--	--
181	Tolman Ridge Exc.	2.22	2.10	1.13	.15	5.60	6.81	11
39	Two Mile Hill Exc.	3.95	3.52	1.67	1.18	10.32	9.60	17
13	West Pasture Exc.	.97	1.82	1.61	.31	4.71	5.54	16
178	Willwood Exc.	1.08	1.58	2.43	.16	5.25	6.12	17
115	Worland Cattle Co. Exc.	1.95	2.23	1.32	.87	6.37	7.72	10

GI = Gauge installed

NR = Not read till later date

ND = No Data

E = Precipitation estimated

Table I. (Continued)

Rain Gauge No.	Rain Gauge Name	Winter Apr. 15 1977	Spring July 1 1977	Summer Sept 1 1977	Fall Oct. 15 1977	Total 1977	Long Term Average	No. of Years
<u>Hot Springs County</u>								
117	Big Bend Exc.	2.43	2.48	1.42	1.66	7.99	10.03	10
76	Cochran Exc.	2.80	2.83	1.73	1.27	8.63	10.11	17
77	Kirby Creek Exc.	2.68	1.89	1.32	1.18	7.07	9.12	15
11	Lower Enos Creek Exc.	1.75	3.44	1.58	1.41	8.18	10.52	10
205a	Murphy Draw BLM 5	GI5/5/77	1.85	1.57	.41	--	--	--
205b	Murphy Draw UW Gauge	GI6/1/77	.95	1.47	.41	--	--	--
133	North Butte(Thermop) Relic	2.27	2.80	1.66	.50	7.23	10.48	6
215	O. B. Reservoir	GI5/5/77	1.37	2.25	.80	--	--	--
202a	Prospect Creek BLM 2	GI5/5/77	1.54	1.83	.99	--	--	--
202b	Prospect Creek UW Gauge	GI6/1/77	.43	1.64	.95	--	--	--
204a	Rankin Basin Exc. BLM 4	GI5/5/77	1.37	1.72	.78	--	--	--
204b	Rankin Basin Exc. UW Gauge		GI8/1/77	.88	.64	--	--	--
204c	Rankin Basin Exc. 8" Gauge		GI8/1/77	1.17	1.02	--	--	--
182	Round Top Mtn. Relic	E2.15	2.84	1.76	.57	E7.32	11.25	6
75	Sand Gulch Exc.	2.16	2.45	1.54	.86	7.01	8.77	16
214	Twenty-one Creek BLM 14	GI6/1/77	.56	2.31	1.05	--	--	--
22	Upper Enos Creek Exc.	E2.25	4.62	2.24	1.30	E10.41	14.92	9
213	Wagonhound BLM 13	GI3/5/77	1.29	2.01	1.14	--	--	--
201	Waugh Dome BLM 1	GI5/5/77	1.61	1.34	.69	--	--	--
<u>Fremont County</u>								
52	Alkali Flats	E2.10	1.75	2.12	.57	E6.54	8.72	17
5	Ant Plot (Lander) Exc.	4.34	1.65	1.00	.35	7.34	8.55	15
157	Bar X	1.65	.33	1.90	.82	4.70	6.37	8
89	Birds Eye Ranch	2.55	2.19	2.05	.50	7.29	8.09	14
10	Boysen Reservoir	.97	.77	1.82	.55	4.11	4.98	18
85	Bridger Creek Ranch	NR	7.74	3.12	1.45	12.29	10.94	15
49	Canyon Creek	2.56	1.70	1.63	.52	6.51	8.62	16
59	Carter Divide Exc.	2.52	3.77	2.68	.28	9.25	8.42	16
88	Comet Mine	3.51	3.18	3.62	1.11	11.42	11.81	15
60	Dishpan Butte #1 Exc.	7.15	1.68	3.95	.50	13.20	11.39	15
61	Dishpan Butte #2 Exc.	3.00	1.60	2.93	.35	7.88	9.68	15
86	Dry Creek	1.39	1.37	2.47	.48	5.71	6.89	17
58	Empty Cartridge Exc.	3.96	1.47	1.00	.34	6.77	8.05	12
55	Fraser Seed Plot	3.63	2.02	1.21	.57	7.43	8.99	15
67	Frenchlie Draw (Madden)	2.19	1.83	2.37	1.25	7.64	9.61	16
48	Fuller Seed Plot	2.54	1.70	.68	.44	5.36	8.24	16
46	Gibbs Butte	1.30	1.13	2.52	.45	5.40	6.90	17
6	Granite Mtn. Exc.	NR	5.18	3.07	.35	8.60	8.76	14
62	Hall Creek Divide Exc.	5.62	1.63	2.41	.40	10.06	11.91	16
87	Hoodoo Creek	1.46	1.25	2.53	.49	5.73	6.53	17
64	Hudson	3.75	1.47	2.23	.40	7.85	9.83	16
68	Johnson	1.66	1.17	1.84	.39	5.06	7.04	15
63	Little Pope Agie	3.75	1.60	3.90	.35	9.60	11.32	16
56	Logan #1 Exc.	3.00	1.50	1.55	.38	6.43	8.98	16
57	Logan #2 Exc.	2.32	1.00	1.70	.48	5.50	8.35	15
16	Lower Gov't Draw #2 Exc.	2.55	1.50	2.46	.40	6.91	10.60	16
81	Mack Ranch	3.82	2.90	2.74	1.14	10.60	8.74	13
14	McGraw Flat Exc.	2.40	1.00	1.95	.32	5.67	9.58	15
47	Muskrat Creek	E1.80	1.37	1.82	.45	E5.44	6.91	15
50	Muskrat #5 Exc.	3.92	1.45	.80	.40	6.57	8.67	16
51	Poison Creek	1.88	1.29	1.74	.70	5.61	7.64	15
80	Poison Draw	1.10	1.76	2.51	.51	5.88	7.14	17
65	Sand Draw	3.58	2.10	1.73	.27	7.68	9.08	14
169	Shoshoni Ant #2 Exc.	2.91	1.68	.80	.42	5.81	8.33	6
170	Shoshoni Ant #4 Exc.	2.54	1.52	.92	.44	5.42	7.94	6
158	Shoshoni Ant #7 Exc.	2.55	1.60	.80	.40	5.35	8.37	7
171	Shoshoni Ant #9 Exc.	E2.60	1.52	.92	.40	E5.44	8.16	6
172	Shoshoni Ant #8 Exc.	2.61	1.36	.73	.44	5.14	7.99	6
173	Shoshoni Ant #11 Exc.	2.20	1.43	.92	.42	4.97	8.08	6
11	Sweetwater Exc.	2.77	1.47	3.11	.46	7.81	8.81	14
9	Upper Gov't Draw #1 Exc.	3.00	1.15	2.96	.40	7.51	9.14	16

Table I. (Continued)

Rain Gauge No.	Rain Gauge Name	Winter Apr. 15 1977	Spring July 1 1977	Summer Sept 1 1977	Fall Oct. 15 1977	Total 1977	Long Term Average	No. of Years
<u>Natrona County</u>								
143	Arminto Exc.	2.14	E2.70	2.95	.43	E8.22	9.17	10
109	Bolton Creek	2.44	2.95	2.11	.40	7.90	9.19	9
141	Donlin Exc.	1.67	.98	3.12	.52	6.29	7.58	10
110	E.K. Exc.	2.14	E2.70	2.95	.43	E8.22	9.17	10
142	Merino Exc.	2.43	E2.00	E3.00	E.45	E7.88	9.17	10
108	Mud Springs Exc.	2.08	E.190	E1.70	.77	E6.45	11.22	10
107	Owl Draw Exc.	2.50	E2.50	1.82	.78	E7.60	10.07	11
144	Poison Spider Exc.	1.85	3.10	2.00	.56	7.51	9.21	10
106	Stinking Creek Exc.	2.25	E2.60	E2.00	.41	E7.26	9.82	11
<u>Carbon County</u>								
186	Flattop	1.40	1.00	2.56	.23	5.19	8.41	5
27	Little Robber #5 Exc.	1.49	1.98	3.43	.40	7.30	9.65	15
128	Oppenheimer #1 Exc.	1.66	1.78	2.75	.40	6.59	9.47	10
124	Poison Butte #1 Exc.	1.78	1.70	4.77	.60	8.85	10.55	10
125	Poison Butte #2 Exc.	2.42	1.71	3.84	.48	8.45	10.67	10
130	Powder Rim Pasture C #1 Exc.	1.54	1.27	3.17	.38	6.36	8.22	10
26	Red Wash #1 Exc.	1.53	1.90	2.33	.40	6.16	8.08	16
25	Red Wash #3 Exc.	1.16	1.68	3.17	.43	6.44	8.36	16
<u>Sweetwater County</u>								
20	Black Mtn. Exc.	1.46	.76	3.11	.74	6.07	7.45	15
30	Boars Tusk Exc.	--	--	GI	1.08	--	7.57	11
18	Cedar Mtn. Exc.	1.63	.97	2.26	.49	5.35	8.26	15
102	Chandler Simpson Well	1.48	.93	.95	.34	3.70	5.71	8
197	Costello Creek	--	--	--	--	11.40	11.38	6
103	Daley Hay Corral	2.29	.89	2.14	.27	5.59	7.09	11
2	Farson Exc.	--	--	GI	.54	--	6.52	12
104	J. O. Headquarters	1.86	.82	2.49	.24	5.41	7.69	12
105	Len Hay Corral	1.74	.48	3.35	.42	5.99	6.86	11
195	Parting of Ways Exc.	--	--	GI	.61	--	--	--
131	Powder Rim Pasture D #1 Exc.	1.18	1.22	2.20	.42	5.02	7.51	10
136	Powder Rim Pasture B #1 Exc.	1.95	.83	2.50	.39	5.67	8.47	10
137	Powder Rim Pasture B #2 Exc.	2.56	1.03	2.70	.40	6.69	10.35	10
139	Powder Rim Pasture A #1 Exc.	1.39	.93	2.10	.50	4.92	8.90	10
19	Radio Tower Exc.	2.18	1.27	1.54	.78	5.77	7.36	17
196	Red Creek Ranch	NR	NR	NR	13.10	13.10	13.21	6
28	Red Wash #2 Exc.	.70	1.14	2.20	0.00	4.04	7.19	16
101	Ten Mile Ridge	1.24	1.36	3.43	.72	6.75	5.65	9
<u>Unita County</u>								
31	Cumberland #1 Exc.	1.90	.27	2.90	.17	5.24	8.04	12
34	Cumberland #4 Exc.	1.90	.25	2.02	1.90	6.07	8.40	12
<u>Lincoln County</u>								
32	Cumberland #2 Exc.	3.20	1.25	2.94	.14	7.53	9.44	13
33	Cumberland #3 Exc.	4.10	1.25	3.90	.14	9.39	11.12	13
35	Elk Mtn. Pit	ND	ND	ND	.45	--	9.37	11
<u>Sublette County</u>								
187	Mesa Antelope Exc.	1.39	1.53	4.56	.76	8.24	7.94	3
190	North Alkali	.82	.76	2.33	.71	4.62	4.99	3
188	North Mesa	--	--	--	ND	--	--	--
189	Sand Draw Pasture	1.04	1.11	2.10	.70	4.95	4.48	3*

TABLE II. Precipitation data from selected U. S. Weather Bureau Stations for the period October 15, 1976 to October 15, 1977.^{1/}

Section Name	Winter Oct 15 to Apr 15	Spring Apr 15 to Jul 1	Summer Jul 1 to Sep 1	Fall Sept 1 to Oct 15	1977 Totals ^{2/}	Long Term Average ^{3/}	Years of Record
<u>Green River Drainage</u>							
Big Piney	--	.25	--	--	--	6.11	35
Farson	1.31	1.34	4.77	.83	8.25	7.61	54
Fontenelle Dam	.31	1.21	2.94	.89	5.35		
Green River	E2.13	E.63	6.09	.80	E9.65	8.54	71
Kemmerer 4 SW	--	--	2.15	--	--	9.53	42
LaBarge 4 NNW	.76	2.12	2.87	.80	E6.55	11.23	52
Pinedale	2.21	2.00	3.23	E1.10	E8.54	8.11	35
Rock Springs	2.59	.84	3.42	.74	7.59	8.79	43
Rock Springs FAAAP	3.05	.54	2.06	.42	6.07	8.79	45
Wamsutter	.65	1.08	3.76	.04	E5.53	6.11	35
<u>Big Horn Drainage</u>							
Anchor Dam	4.01	3.12	2.18	1.39	10.70	15.28	14
Basin	1.80	1.62	1.65	.71	5.78	6.47	70
Black Mtn.	4.82	2.80	3.94	2.26	13.82	11.17	13
Cody	1.14	3.65	1.08	.97	6.84	9.63	67
Cody 12 SE	2.11	3.61	1.52	.74	7.38	12.55	13
Deaver	1.14	2.00	2.02	.63	5.79	5.58	59
Emblem	1.77	2.14	1.55	.65	6.11	5.58	29
Grass Creek	1.42	2.54	1.56	1.60	7.12	11.68	23
Greybull	2.36	1.58	2.38	.68	E7.00	7.49	24
Heart Mtn.	3.02	2.47	1.73	.93	6.55		
Lovell	1.72	2.22	1.90	.85	6.69	6.95	65
Powell	1.06	1.85	2.18	.51	5.60	6.09	68
Rairden 2 WSW	2.27	2.03	1.19	.61	6.10	7.01	24
Shell 4 ENE							
Sunshine 2 ENE	4.83	4.15	1.62	.90	11.50		15
Ten Sleep 4 NE	4.84	3.11	3.24	1.21	12.40	12.95	12
Ten Sleep 16 SSE	4.78	3.21	1.81	1.13	10.93		
Thermopolis 2	3.77	3.14	1.70	.85	9.46	11.17	13
Thermopolis 25 NNW	2.83	2.72	E2.25	1.55	E9.35	11.48	20
Worland	.89	E2.07	1.28	.49	E4.73	7.40	64
Worland FAA AP	1.62	2.00	1.07	.35	5.04	5.67	17
<u>Wind River Drainage</u>							
Boysen Dam	3.10	1.84	3.08	.68	8.70	7.88	31
Ft. Washakie 1 SE	E5.33	2.41	E3.79	E.53	E12.06	12.30	69
Gas Hills 4E	7.47	2.30	2.19	.72	E12.68		
Lander WSO AP	6.96	2.08	2.97	.48	12.49	13.84	86
Lost Cabin	--	--	--	--	--	6.52	16
Pavilion	E2.61	2.14	3.37	.29	E8.41	8.82	53
Riverton	E3.05	E3.13	3.52	.51	E10.21	8.56	58
Sand Draw	--	--	--	--	--	9.11	30
Shoshoni	2.25	1.18	2.13	.40	5.96	5.41	37
<u>Platte Drainage</u>							
Sates Creek 2	3.97	4.11	2.46	.48	11.02		
Muddy Gap	--	--	--	--	--	11.85	28
Rawlins FAA AP	2.23	3.13	3.09	.31	8.76	10.83	38
South Pass City	4.21	1.84	3.19	E.73	E9.97	13.87	69
Casper 2E	2.82	1.63	2.27	.56	7.28	13.37	58
Casper WSO AP	3.69	2.70	2.22	.81	9.42	11.22	40

^{1/} Weather Bureau, 1977. Climatological Data-Wyoming Annual Summary of Commerce, Vols. 85-86.^{2/} Computed for the period October 15, 1976 to October 15, 1977.^{3/} Weather Bureau, 1974 and 1976. Climatological Data-Wyoming Annual Summary. U.S. Dept. of Commerce, Vol. 83 & 86, No. 13, and John Aliya, U.S. Weather Bureau, Cheyenne.

TABLE III: Precipitation summary by county and region for 1977 for University of Wyoming, BLM and Weather Bureau stations. Data in inches precipitation from October 15, 1976 through October 15, 1977.

County-Region	No. of Gauges	Long Term Average PPT.	PPT. Total 1977	1977 Diff. From Average	No. Gauges above (+) or below (-) Long Term Average (+) (-)	
Big Horn	15	7.70	6.88	-0.82	0	15
Park	6	8.16	6.08	-2.08	0	6
Washakie	19	8.20	7.30	-0.90	2	17
Hot Springs	<u>8</u>	<u>10.65</u>	<u>7.98</u>	<u>-2.67</u>	<u>0</u>	<u>8</u>
Big Horn Basin	48	8.45	7.13	-1.32	2	46
Fremont	41	8.64	7.70	-0.34	4	37
Natrona	9	11.20	6.81	-4.39	0	9
Carbon	8	9.18	6.92	-2.26	0	8
Sweetwater	15	8.20	6.36	-1.84	1	14
Uinta	2	8.22	5.65	-2.57	0	2
Lincoln	2	10.28	8.46	-1.82	0	2
Sublette	3	5.80	5.94	+0.14	2	1
Weather Bureau Stations						
Big Horn Drainage	17	9.08	7.64	-1.44	3	14
Platte Drainage	4	12.32	8.86	-3.46	0	4
Green River Drainage	7	8.45	7.45	-1.00	3	4

SECTION IV

EXCLOSURE STUDIES (PRODUCTION, COVER, AND PRECIPITATION PHASE)

1977

Introduction

Studies of vegetation forage production from several exclosures and relic areas of the Big Horn and Wind River Basins were initiated during the 1962 field season. These studies have been expanded and continued annually since that time to include 40 different exclosures throughout the western half of Wyoming. The objectives of the program are to determine:

- (1) the relationship of vegetation production with phenodynamics and environmental data;
- (2) the relationship of annual herbage production to area cover percentage;
- (3) the influence of some range improvement practices on herbage production and area cover;
- (4) the relationship of percentage frequency to area cover and herbage production.

Methods and Procedures

Area cover and herbage production studies on sagebrush-grass sites were conducted on transects of 20 quadrats, 1' x 1', spaced systematically along a randomly located 100' steel tape.

On sites dominated by saltbush, a variation of the sampling technique, described in the 1968 results, was used to measure herbage production. Twenty 1' x 10' plots were located systematically along a randomly located 100' steel tape. Each 1' x 10' plot was subsampled for vegetative cover using 10 1' x 1' plots.

Area cover of all herbaceous semi-woody and woody species was estimated within each square foot plot. Data of shrub crown cover and basal cover of plains pricklypear, Hood's phlox and Hooker sandwort were not combined when comparing area cover to herbaceous production since this group of plants was not clipped.

Forage production was determined by clipping herbaceous species at ground or crown level. The clipping procedure was conducted on or near the same date as the previous year for each exclosure. Clippings were oven-dried at 70° C for 24 hours prior to weighing.

On areas where animal use had occurred prior to clipping, utilization estimates by species were made. These estimates were made at the same time and within each plot when clipped. The utilization values were averaged by species for the 20 plots and later used to adjust production for herbage lost by utilization.

As in 1968 and 1971 through 1975, by adding the shrubby and mat forming species production to the clipped production, an index of total production was derived. Shrub and mat forming plant production was obtained by a modified double-sampling technique during late September and October. Weight units were estimated on 20 quadrats, 4' x 5',

subdivided into six inch squares, spaced 6-12 steps apart across the study area. Shrubby species larger than six square inches were estimated using the six inch square as one weight unit. Mat forming plants and shrubs smaller than six square inches were estimated by weight units of characteristic shape and size. Three of these units for each species were clipped for weight determination. Each of these units was dried in an oven at 70° C for 96 hours. The average gram weight of the three species weight units, multiplied times the total number of estimated units in 20 quadrats, was converted to lbs/acre.

At the same time clipped production data were collected, pictures of the transects were taken giving a pictorial history from year to year at each study location.

Precipitation data was recorded from simple aluminum rain gauges installed at each exclosure. The rain gauge has a diameter of 2.75 inches; so each 100 milliliters of water recorded in the gauge equals one inch of precipitation. Oil is added to each gauge after reading to prevent evaporation. During the winter months antifreeze is added in known amounts to prevent the gauges from freezing and breaking. Precipitation data is collected four times a year -- April 15, July 1, September 1 and October 15. In the Big Horn Basin however moisture in gauges was read eight times during the year - March 1, April 15, June 1, July 1, August, September 1, October 15, November 15. BLM personnel responsible for rangeland inventory and hydrologic interrelationships urged the increased frequency of recording precipitation. A number of new locations were established and small commercial gauges installed on them. The new gauges were located primarily in western Big Horn Basin. The additions serve well to provide information from throughout the Basin.

Results 1977

The information presented in this 1977 annual report is in the same format as past Arid Land Ecology Annual Reports. Basal cover, frequency, production and precipitation data are presented in summary sheets, one summary for each study area treatment. Table I gives an alphabetical listing of study areas, the county where each is located and the treatments studied at each area. Names of plants which occurred in the production study areas are shown in Table II. Included are four letter code, genus, species, common name, life form and longevity of the plant. Table III gives the utilization by species that has occurred at the different exclosures and treatment. Study areas that are not mentioned showed no significant amount of utilization. Table IV serves as a contents to the summary sheets for each study area. Production on the summary sheets are broken down into clipped production (herbaceous species), shrub production, total production, percent of utilization and precipitation data.

Production and cover totals for 1977 were lower than the totals for the four previous years, with the exception of production in 1973 and cover in 1974. In 1977 production was the lowest in the south western part of the state. Production totals at the Cumberland exclosures were the lowest value in the past five years. Production values were also low at Farson and Shoshoni #7. The exclosures located in the eastern half of the Big Horn Basin; Demer, Smilo and Bud Kimball, all showed high production values in 1977.

The extremes in high and low production for 1977 appear to be due in large part to shrub production and in particular Artemisia tridentata and summer rainfall occurrences. The exclosures with low total production values also have very low shrub production and low percentage cover. Correspondingly, exclosures that have high total production have high shrub production. The cover values at these exclosures do not show the same increase as does the production. This is due to the fact that the percentage basal cover of shrubs does not change as greatly with shrub production change as it would with changes in herbage production.

TABLE I. An alphabetical listing of study areas, the county where each occurs, the treatments studied at each area. contents.

County Name Code	Exclosure Name	County	Treatment
2017	Big Trails G.R.I. Exc.	Washakie	Inside Spray Outside Native
1002	Boysen Reservoir Exc.	Fremont	Inside Native Outside Native
2007	Bud Kimball Exc.	Washakie	Inside Native Outside Native Inside Spray Outside Spray
2002	Buffalo Creek Exc.	Washakie	Inside Native Outside Native
2003	Burnt Wagon Exc.	Washakie	Inside Native Outside Native
1501	Cochran Exc.	Hot Springs	Inside Native Inside Pitted Outside Native Outside Spray
1901	Cumberland Exc. #1	Uinta	Inside Native Outside Native Inside Spray Outside Spray
1201	Cumberland Exc. #2	Lincoln	Inside Native Outside Native Inside Spray Outside Spray
1202	Cumberland Exc. #3	Lincoln	Inside Native Outside Native Inside Spray Outside Spray
1902	Cumberland Exc. #4	Uinta	Inside Native Outside Native
2004	Demer	Washakie	Inside Native Outside Native
2005	Dutch Nick Exc.	Washakie	Inside Native Outside Native
0404	Farson Exc.	Sweetwater	Inside Native Outside Native
1007	Granite Mountain Exc.	Fremont	Inside Native Outside Native Inside Spray Outside Spray
0901	Halogeton Pasture Exc. #1	Big Horn	Inside Native
0905	Halogeton Pasture Exc. #2	Big Horn	Inside Native
0903	Halogeton Pasture Exc. #3	Big Horn	Inside Native
0913	Horse Creek Exc.	Big Horn	Inside AGSP Outside AGSP Inside AGSM Outside AGSM Inside ARNO Outside ARNO

TABLE I. (continued)

County Name Code	Exclosure Name	County	Treatment	Page
0914	Kane Deer Exc.	Big Horn	Inside Native Outside Native Inside Spray Outside Spray	
0921	Kane G.R.I. Exc.	Big Horn	Inside Native Outside Spray	
1502	Kirby Creek Exc.	Hot Springs	Inside Native Outside Native	
1001	Lander Ant Exc.	Fremont	Inside Native Outside Native	
1003	Lower Gov't Draw Exc.	Fremont	Inside Native Outside Native Inside Spray Outside Spray	
1004	McGraw Flat Exc.	Fremont	Inside Native Outside Native	
0920	Medicine Lodge G.R.I. Exc.	Big Horn	Inside Spray Outside Native	
2301	Mesa Antelope	Sublette	Inside Native Outside Native	
1503	North Butte Relic Area	Hot Springs	Native	
1504	Round Top Relic Area	Hot Springs	Native	
1505	Sand Gulch Exc.	Hot Springs	Inside Native Outside Native	
1009	Shoshone Ant Exc. #2 North South	Fremont	Inside Native Inside Native Outside Native	
1011	Shoshone Ant Exc. #4 North South	Fremont	Inside Native Inside Native Outside Native	
1013	Shoshone Ant Exc. #7 North South	Fremont	Inside Native Inside Native Outside Native	
1014	Shoshone Ant Exc. #8 North South	Fremont	Inside Native Inside Native Outside Native	
1015	Shoshone Ant Exc. #9 North South	Fremont	Inside Native Inside Native Outside Native	
1017	Shoshone Ant Exc. #11 North South	Fremont	Inside Native Inside Native Outside Native	
2009	Smilo Exc.	Washakie	Inside Native Outside Native Inside Spray Outside Spray	

TABLE I. (continued)

County Name				
Code	Exclosure Name	County	Treatment	Page
1005	Sweetwater Exc.	Fremont	Inside ARNO Outside ARNO Inside ARTR Outside ARTR	
2010	Two Mile Hill Exc.	Washakie	Inside Native Outside Native	
1006	Upper Gov't Draw Exc.	Fremont	Inside Native Outside Native Inside Spray Outside Spray	
2006	West Pasture Exc.	Washakie	Inside Native Outside Native	

TABLE II. LIST OF PLANT NAMES WHICH OCCURRED IN PRODUCTION STUDY AREAS.

Code	Genus-Species	Common Name	Life Form	Longevity
AGCR	Agropyron cristatum	Crested wheatgrass	Grass	Perennial
AGGL	Agoseris glauca	Pale agoseris	Forb	Perennial
AGSM	Agropyron smithii	Western wheatgrass	Grass	Perennial
AGSP	Agropyron spicatum	Bluebunch wheatgrass	Grass	Perennial
ALTE	Allium textile	Textile onion	Forb	Perennial
ANDI	Antennaria dimorpha	Low pussytoe	Forb	Perennial
ANRO	Antennaria rosea	Rose pussytoes	Mat-form	Perennial
ARFR	Artemisia frigida	Fringed sagewort	Half-shrub	Perennial
ARHO	Arenaria hookeri	Hooker sandwort	Mat-form	Perennial
ARHO ²	Arabis holboellii	Holboell rockcress	Forb	Perennial
ARLO	Aristida longiseta	Red three-awn	Grass	Perennial
ARNO	Artemisia nova	Black sagebrush	Shrub	Perennial
ARSP	Artemisia spinescens	Bud sagebrush	Shrub	Perennial
ARTR	Artemisia tridentata	Big sagebrush	Shrub	Perennial
ASDI	Astragalus diversifolius	Meadow milkvetch	Forb	Perennial
ASMI	Astragalus missouriensis	Missouri milkvetch	Forb	Perennial
ASPU	Astragalus purshii	Pursh loco	Forb	Perennial
ASSP	Astragalus spatulatus	Tufted milkvetch	Mat-form	Perennial
ATCO	Atriplex confertifolia	Shadscale saltbush	Shrub	Perennial
ATGA	Atriplex gardneri	Nuttall saltbush	Half-shrub	Perennial
BOGR	Bouteloua gracilis	Blue grama	Grass	Perennial
BRJA	Bromus japonicus	Japanese chess	Grass	Annual
BRTE	Bromus tectorum	Cheatgrass	Grass	Annual
CAEL	Carex eleocharis	Needleleaf sedge	Sedge	Perennial
CAFI	Carex filifolia	Threadleaf sedge	Sedge	Perennial
CAMI	Camelina microcarpa	Littlepod falseflax	Forb	Annual
CANU	Calochortus nuttallii	Sego mariposally	Forb	Perennial
CHDO	Chaenactis douglasii	Douglas dustymaiden	Forb	Perennial
CHEN	Chenopodium spp.	Goosefoot	Forb	Annual
CHVI	Chrysothamnus viscidiflorus	Douglas rabbitbrush	Shrub	Perennial
COPA	Commandra pallida	Pale bastardtoadflax	Forb	Perennial
CORA	Cordylanthus ramosus	Branched birdbeak	Forb	Annual
CRBR	Cryptantha bradburiana	Minerscandle cryptantha	Forb	Perennial
CRE	Crepis spp.	Hawksbeard	Forb	Perennial
CRFL	Cryptantha flavoculata	Roughseed cryphantha	Forb	Perennial
CYMO	Cymopterus montanus	Mountain springsparsley	Forb	Perennial
DEGE	Delphinium geyeri	Plains larkspur	Forb	Perennial
DEPI	Descurainia pinnata	Pinnate tansymustard	Forb	Annual
DRA	Draba spp.	Draba	Forb	Perennial
ERCA	Erigeron canadensis	Horseweed fleabane	Forb	Annual
ERCO	Erigeron compositus	Fernleaf fleabane	Forb	Perennial
ERI	Erigeron spp.	Fleabane	Forb	Perennial
ERMI	Eriogonum microthecum	Slenderbush wildbuckwheat	Shrub	Perennial
EROV	Eriogonum ovalifolium	Cushion eriogonum	Mat-form	Perennial
ERPU	Erigeron pumilus	Low fleabane	Forb	Perennial
ERSU	Eriogonum subalpinum	Subalpine eriogonum	Mat-form	Perennial

TABLE II. Continued

Code	Genus-Species	Common Name	Life Form	Longevity
EULA	Eurotia lanata	Winterfat	Half-shrub	Longevity
EUSE	Euphorbia serphyllifolia	Thyme-leaved spurge	Forb	Annual
FEID	Festuca idahoensis	Idaho fescue	Grass	Perennial
GACO	Gaura coccinea	Scarlet gaura	Forb	Perennial
GICO	Gilia congesta	Ballhead gilia	Forb	Perennial
GIIN	Gilia insignis	Small gilia	Forb	Annual
GIPU	Gilia pumila	Dwarf gilia	Forb	Annual
GRSP	Grayia spinosa	Spiny hopsage	Shrub	Perennial
HAAC	Haplopappus acaulis	Stemless golden weed	Mat-form	Perennial
HAGL	Halogeton glomeratus	Halogeton	Forb	Annual
HEAN	Helianthus annuus	Annual sunflower	Forb	Annual
JUOS	Juniperus osteosperma	Utah juniper	Tree	Perennial
JUSC	Junipersu scopulorum	Rocky Mountain Red cedar	Tree	Perennial
KOCR	Koeleria cristata	June grass	Grass	Perennial
LARE	Lappula redowskii	Bluebur stickseed	Forb	Annual
LASC	Lactuca scariola	Prickly lettuce	Forb	Annual
LEDE	Lepidium densiflorum	Prairie pepperweed	Forb	Annual
LEPE	Lepidium perfoliatum	Clasping pepperweed	Forb	Annual
LEPU	Leptodactylon pungens	Granite gilia	Shrub	Perennial
LILE	Linum lewisii	Blue flax	Forb	Perennial
LOSI	Lonatum simplex	Narrowleaf lomatium	Forb	Perennial
MACA	Machaeranthera canescens	Hoary aster	Forb	Perennial
MAGL	Machaeranthera glabriuscula	Woody aster	Half-shrub	Perennial
MATA	Machaeranthera tanacetifolia	Aster	Forb	Annual
MESC	Menodora scabra	Rough menodora	Forb	Perennial
MONU	Monolepis nuttalliana	Nuttall monolepis	Forb	Annual
MUDI	Musineon divaricatum	Leafy musineon	Forb	Perennial
OPPO	Opuntia polyacantha	Plains pricklypear	Shrub	Perennial
ORHY	Oryzopsis hymenoides	Indian ricegrass	Grass	Perennial
OXSE	Oxytropis sericea	Silky loco	Forb	Perennial
PECL	Penstemon cleburnei	Cleyburn penstemon	Forb	Perennial
PEN	Penstemon spp.	Penstemon	Forb	Perennial
PHAU	Physaria australis	Twinpod	Forb	Perennial
PHHO	Phlox hoodii	Hood's phlox	Mat-form	Perennial
PHLI	Phacelia linearis	Threadleaf phacelia	Forb	Annual
PHLO	Phlox longifolia	Long-leaf phlox	Forb	Perennial
PHMU	Phlox multiflora	Flowery phlox	Mat-form	Perennial
PLPA	Plantago patagonica	Wooly indianwheat	Forb	Annual
PLSP	Plantago spinescens	Spiny indianwheat	Forb	Annual
POAV	Polygonum aviculare	Prostrate knotweed	Forb	Annual
POFE	Poa fendleriana	Mutton bluegrass	Grass	Perennial
POSE	Poa secunda	Sandberg bluegrass	Grass	Perennial
PSTE	Psoralea tenuiflora	Slimflower scurfpea	Forb	Perennial
SAKA	Salsola kali	Russian thistle	Forb	Annual
SAVE	Sarcobatus vermiculatus	Greasewood	Shrub	Perennial
SEST	Sedum stenopetalum	Wormleaf stonecrop	Forb	Perennial
SIAL	Sisymbrium altissimum	Tumblemustard	Forb	Annual

TABLE II. Continued

Code	Genus-Species	Common Name	Life Form	Longevity
SILI	<i>Sisymbrium linifolium</i>	Tumbleweed	Forb	Annual
SIHY	<i>Sitanion hystrix</i>	Squirreltail bottlebrush	Grass	Perennial
SPCO	<i>Sphaeralcea coccinea</i>	Scarlet globemallow	Forb	Perennial
SPAI	<i>Sporobolus airoides</i>	Alkali sacaton	Grass	Perennial
STCO	<i>Stipa comata</i>	Needleandthread	Grass	Perennial
STVI	<i>Stipa viridula</i>	Green needlegrass	Grass	Perennial
SYOC	<i>Symphoricarpos occidentalis</i>	Western snowberry	Shrub	Perennial
TAOF	<i>Taraxacum officinale</i>	Common dandelion	Forb	Perennial
TECA	<i>Tetradymia canescens</i>	Gray horsebrush	Shrub	Perennial
TESP	<i>Tetradymia spinosa</i>	Spiny horsebrush	Shrub	Perennial
TRDU	<i>Tragopogon dubius</i>	Yellow salsify	Forb	Biennial
TRI	<i>Trifolium spp.</i>	Clover	Forb	Perennial
VIAM	<i>Vicia americana</i>	American vetch	Forb	Perennial
VUOC	<i>Vulpia octoflora</i>	Common sixweeksgrass	Grass	Annual
XASA	<i>Xanthocephalum sarothroides</i>	Broom snakeweed	Half-shrub	Perennial

TABLE III. UTILIZATION OCCURRING PRIOR TO CLIPPING

Exclosure	Treatment	Species	% Utilization	Lbs./Acre
Bud Kimball	Out native	AGSM	5	7.58
		POSE	20	14.13
	Out native	AGSM	25	36.65
		POSE	5	3.76
Buffalo Creek	Out native	AGSM	5	2.85
		AGSP	5	8.99
Cumberland #1	Out native	AGSM	46.6	12.32
		POSE	52.6	5.96
	Out spray	AGSM	63.5	18.02
		POSE	51.3	4.89
Cumberland #2	Out native	AGSM	23.3	17.97
		POFE	55.5	33.58
	Out spray	AGSM	42.2	36.37
		POFE	55.2	31.41
Cumberland #3	Out native	AGSM	6.5	1.91
		AGSP	12.0	.59
	Out spray	AGSM	31.2	20.64
		AGSP	62.1	19.23
		POFE	44.4	11.21
		POSE	5.6	.24
		STCO	50.0	1.29
Demer	In native	AGSM	23	6.93
	Out native	AGSM	3	.81
		POSE	2	.41
Dutch Nick	In native	BOGR	9.9	27.00
		POSE	4.3	1.72
Granite Mountain	Out native	AGSM	10	8.83
		POFE	14	23.34
		POSE	0.5	.02
	Out spray	AGSM	16	24.74
		POFE	50	47.32
		POSE	5	1.01
Horse Creek	Out AGSM	AGSM	23	30.68
		AGSP	42	6.87
		POSE	27	8.06
	OUT AGSP	AGSM	42	27.87
		AGSP	44	59.83
		POSE	19	1.51

TABLE III. Continued

Exclosure	Treatment	Species	% Utilization	Lbs./Acre
Lower Govt. Draw	Out native	AGSM	7	5.21
		STCO	1	.35
	Out spray	AGSM	45	83.60
		KOCR	63	5.07
		POSE	13	1.15
McGraw Flats	Out native	POFE	34	30.38
Medicine Lodge	Out native	FEID	13	.65
		KOCR	3	.21
		POSE	11	.21
Smilo	In native	STCO	5	7.18
	Out spray	AGSM	25	21.39
		POSE	5	.87
		STCO	10	2.17
Two Mile Hill	Out native	POSE	10	7.63
		SIHY	35	2.28
Upper Govt. Draw	Out native	AGSM	7	4.34
		KOCR	13	9.92
		POSE	20	10.94
	Out spray	AGSM	25	26.62
		KOCR	32	15.54
		POSE	21	14.35
		STCO	13	4.93

TABLE IV. Vegetation cover data, precipitation and herbage production data alphabetically by exclosure, grazing treatment and shrub control treatment and intro-table of contents by study area.

		<u>Page</u>
Big Trails GRI	Exclosure	382
Boysen	"	384
Bud Kimball	"	386
Buffalo Creek	"	390
Burnt Wagon	"	392
Cochran	"	394
Cumberland #1	"	398
Cumberland #2	"	402
Cumberland #3	"	406
Cumberland #4	"	410
Demer	"	412
Dutch Nick	"	414
Farson	"	416
Granit Mountain	"	418
Halogeton #1	"	422
Halogeton #2	"	423
Halogeton #3	"	424
Horse Creek	"	426
Kane Deer	"	430
Kane GRI	"	434
Kirby Creek	"	436
Lander Ant	"	438
Lower Gov't Draw	"	440
McGraw Flats	"	444
Medicine Lodge GRI	"	446
Mesa Antelope	"	448
North Butte Relic	"	450
Round Top Relic	"	451
Sand Gulch	"	452
Shoshoni Ant #2	"	454
Shoshoni Ant #4	"	458
Shoshoni Ant #7	"	462
Shoshoni Ant #8	"	466
Shoshoni Ant #9	"	470
Shoshoni Ant #11	"	474
Smilo	"	478
Sweetwater	"	482
Two Mile Hill	"	486
Upper Gov't Draw	"	488
West Pasture	"	492

13 25 OCT 09 RUNVJIA...
2017 BIG TRAILS G.R.I. JULY 26/77 INSIDE SPRAY

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*JUOS	5.00	2.50E-01		1				
	PER FORBS	0.30	0.01		1	0.00	0.00	0.00	0.00
2	UNK1	0.30	1.50E-02	5.03E-01	1				
	ANN GRASS	56.00	2.80		19	40.16	2.11	0.72	192.84
5	BRTS	55.80	2.79E+00	9.35E+01	19				
5	VUOC	0.20	T	3.35E-01	1				
	ANN FORBS	3.40	0.17		3	2.25	0.75	0.66	10.80
4	PLSP	0.50	2.50E-02	8.38E-01	3				
4	PDV	1.10	5.50E-02	1.84E+00	3				
4	SIAL	1.60	8.00E-02	2.68E+00	3				
4	LASC	0.20	T	3.35E-01	1				
	TOTAL		3.23	100.00		4.2410E+01			2.0364E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

No Shrub Data collected

PRECIPITATION DATA

RAIN GAUGE NO.	BIG	TRAILS G.R.I. JULY 26/77
OCT. 15 TO APR. 15	= 6.32	
APR. 15 TO JULY 1	= 2.93	
JULY 1 TO SEPT. 1	= 2.42	
SEPT. 1 TO OCT. 15	= 1.20	
SEASON TOTAL	= 10.87	
LONG TERM AVERAGE	= 12.93	

No Utilization

2017 BIG TRAILS G.R.I. JULY 26/77 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	1.80	9.00E-02		2				
6	*JUOS	18.00	9.00E-01		1				
	PER GRASS	0.70	0.03		2	0.43	0.21	0.61	2.06
3	POSE	0.70	3.50E-02	1.40E+00	2	0.43	0.21	0.61	2.0647E+00
	ANN GRASS	48.10	2.40		20	33.00	1.65	0.69	158.46
5	BRTF	48.10	2.40E+00	9.64E+01	20				
	ANN FORBS	1.10	0.05		3	0.50	0.17	0.45	2.40
4	LEDE	0.10	T	2.00E-01	1				
4	SIAL	0.50	2.50E-02	1.00E+00	1				
4	UNK1	0.50	2.50E-02	1.00E+00	3				
	TOTAL		3.48	100.00		3.3930E+01			1.6292E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

No Shrub Data Collected

PRECIPITATION DATA

RAIN GAUGE NO.	BIG	TRAILS G.R.I. JULY 26/77
OCT. 15 TO APR. 15	= 6.32	
APR. 15 TO JULY 1	= 2.93	
JULY 1 TO SEPT. 1	= 2.42	
SEPT. 1 TO OCT. 15	= 1.20	
SEASON TOTAL	= 10.87	
LONG TERM AVERAGE	= 12.93	

No Utilization

1002 BOYSEN RESERV EXCL JULY 25/77 INSIDE NATIVE

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	NUMBER PLOTS = 20		ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	PLOT SIZE 1X1					
6	*OPPO	5.30	2.65E-01		2					
	PER GRASS	162.70	8.13		19		32.60	1.72	0.20	156.54
3	BOGR	152.70	8.13E+00	9.17E+01	19		32.60	1.72	0.20	1.5654E+02
	PER FORBS	14.70	0.73		17		6.11	0.36	0.42	29.34
2	SPCD	14.70	7.35E-01	8.29E+00	17					
	TOTAL		9.13	100.00			3.8710E+01			1.8587E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

Oppo

	9.65
Shrub production	9.65
Total	<u>195.52</u>

PRECIPITATION DATA

RAIN GAUGE NO.	BOYSEN RESERV EXCL	JULY	25/77
OCT. 15 TO APR. 15 =	.97		
APR. 15 TO JULY 1 =	.77		
JULY 1 TO SEPT. 1 =	1.82		
SEPT. 1 TO OCT. 15 =	.55		
SEASON TOTAL =	4.11		
LONG TERM AVERAGE =	4.98		

No Utilization

1002 BOYSEN RESERV EXCL JULY 25/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
6	*OPPO	0.60	3.00E-02		2				
	PER GRASS	113.20	5.66		15	16.85	1.12	0.15	80.91
3	BOGR	113.20	5.66E+00	9.65E+01	15	16.85	1.12	0.15	8.0909E+01
	PER FORBS	4.10	0.20		10	2.10	0.21	0.51	10.08
2	GACO	0.20	T	1.71E-01	1				
2	SPCO	3.90	1.95E-01	3.32E+00	10				
	TOTAL		5.89	100.00		1.8950E+01			9.0992E+01

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

Atco
Oppo

32.54
9.89
42.43
133.42

Shrub production
Total

PRECIPITATION DATA

RAIN GUAGE NO.	BOYSEN RESERV EXCL	JULY	25/77
OCT. 15 TO APR. 15 =	.97		
APR. 15 TO JULY 1 =	.77		
JULY 1 TO SEPT. 1 =	1.82		
SEPT. 1 TO OCT. 15 =	.55		
SEASON TOTAL =	4.11		
LONG TERM AVERAGE =	4.98		

No Utilization

2007 BUD KIMBAL EXCL JULY 11/77 INSIDE NATIVE

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	NUMBER PLOTS = 20		ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PLOT SIZE 1X1	PERCENT COMPO- SITION					
1	*PHMU	13.00	6.50E-01	1.64E+01	3					
6	*ARTR	139.00	6.95E+00		7					
6	*OPPO	3.80	1.90E-01		2					
	PER GRASS	50.30	3.01		19	56.33	2.96	0.93	270.48	
3	AGSM	21.30	1.06E+00	2.69E+01	19	28.62	1.51	1.34	1.3742E+02	
3	POSE	39.00	1.95E+00	4.93E+01	19	27.71	1.46	0.71	1.3305E+02	
	PER FORBS	5.20	0.26		6	0.87	0.14	0.17	4.18	
2	ERPU	5.20	2.60E-01	6.57E+00	6					
	ANN GRASS	0.30	0.01		2	0.71	0.35	2.37	3.41	
5	VUOC	0.30	1.50E-02	3.79E-01	2					
	ANN FORBS	0.30	0.01		2	0.24	0.12	0.80	1.15	
4	PLSP	0.30	1.50E-02	3.79E-01	2					
	TOTAL		11.09	100.00		5.8150E+01			2.7922E+02	

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	223.26
OPPO	51.01
PHHO	2.15
Shrub production	<u>276.42</u>
Total	<u>555.64</u>

PRECIPITATION DATA

RAIN GAUGE NO.	BUD	KIMBAL EXCL	JULY	11/77
OCT. 15 TO APR. 15	=	3.09		
APR. 15 TO JULY 1	=	3.57		
JULY 1 TO SEPT. 1	=	1.38		
SEPT. 1 TO OCT. 15	=	.99		
SEASON TOTAL	=	9.03		
LONG TERM AVERAGE	=	9.39		

No Utilization

2007 BUD KIMBAL EXCL JULY 11/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
1	*PHHO	13.00	6.50E-01	1.44E+01	4				
6	*ARTR	133.80	6.69E+00		7				
	PER GRASS	64.70	3.23		19	50.17	2.64	0.78	240.90
3	AGSM	25.10	1.25E+00	2.79E+01	19	31.59	1.66	1.26	1.5169E+02
3	POSE	37.80	1.89E+00	4.20E+01	18	14.71	0.82	0.39	7.0633E+01
3	SIHY	1.80	9.00E-02	2.00E+00	2	3.87	1.93	2.15	1.8583E+01
	PER FORBS	2.30	0.11		7	4.00	0.57	1.74	19.21
2	ERPU	2.30	1.15E-01	2.56E+00	7				
	ANN GRASS	8.70	0.43		13	6.95	0.53	0.80	33.37
5	VUOC	8.70	4.35E-01	9.67E+00	13				
	ANN FORBS	1.30	0.06		10	0.52	0.05	0.40	2.50
4	PLSP	1.30	6.50E-02	1.44E+00	10				
	TOTAL		11.19	100.00		6.1640E+01			2.9598E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	193.34
OPPO	12.57
PHHO	3.65
XASA	5.19
Shrub production	214.75
Total	<u>510.73</u>

PRECIPITATION DATA

RAIN GUAGE NO.	BUD	KIMBAL EXCL	JULY	11/77
OCT. 15 TO APR. 15	=	3.09		
APR. 15 TO JULY 1	=	3.57		
JULY 1 TO SEPT. 1	=	1.38		
SEPT. 1 TO OCT. 15	=	.99		
SEASON TOTAL	=	9.03		
LONG TERM AVERAGE	=	9.39		

Utilization

AGSM
POSE

Percent of Total Prod.

5%
20%

2037 BUD KIMBAL EXCL JULY 11/77 INSIDE SPRAY

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	3.00	1.50E-01	2.44E+00	1				
6	*OPPO	8.50	4.25E-01		2				
	PER GRASS	47.70	2.38		18	51.09	2.84	1.07	245.32
3	AGSM	18.90	9.45E-01	1.54E+01	18	33.66	1.87	1.78	1.6162E+02
3	POSE	26.80	1.34E+00	2.18E+01	15	16.23	1.08	0.61	7.7931E+01
3	STCO	0.40	2.00E-02	3.26E-01	1	0.10	0.10	0.25	4.8017E-01
3	STLO	1.60	8.00E-02	1.30E+00	1	1.10	1.10	0.69	5.2819E+00
	PER FORBS	1.40	0.07		2	0.17	0.08	0.12	0.82
2	ERPU	1.40	7.00E-02	1.14E+00	2				
	ANN GRASS	68.60	3.43		18	55.85	3.10	0.81	268.17
5	BRTE	55.30	3.26E+00	5.32E+01	18				
5	VUOC	3.30	1.65E-01	2.69E+00	10				
	ANN FORBS	2.00	0.10		5	0.68	0.14	0.34	3.27
4	LARE	0.50	2.50E-02	4.07E-01	3				
4	LEDE	0.10	T	8.15E-02	1				
4	PLSP	1.40	7.00E-02	1.14E+00	5				
	TOTAL		6.56	100.00		1.0779E+02			5.1757E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO	12.89
PHHO	0.24
Shrub production	13.13
Total	<u>530.70</u>

PRECIPITATION DATA

RAIN GUAGE NO.	BUD	KIMBAL EXCL	JULY	11/77
OCT. 15 TO APR. 15	=	3.09		
APR. 15 TO JULY 1	=	3.57		
JULY 1 TO SEPT. 1	=	1.38		
SEPT. 1 TO OCT. 15	=	.99		
SEASON TOTAL	=	9.03		
LONG TERM AVERAGE	=	9.39		

No Utilization

2007 BUD KIMBAL EXCL JULY 11/77 OUTSID SPRAY

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	73.00	3.65E+00		3				
6	*OPPO	10.00	5.00E-01		1				
	PER GRASS	52.20	2.61		20	67.03	3.35	1.28	321.86
3	AGSM	32.30	1.61E+00	3.76E+01	20	51.36	2.57	1.59	2.4661E+02
3	POSE	19.90	9.95E-01	2.32E+01	18	15.67	0.87	0.79	7.5243E+01
	PER FORBS	0.20	0.01		1	0.08	0.08	0.40	0.38
2	ERPU	0.20	T	2.33E-01	1				
	ANN GRASS	27.90	1.39		20	21.98	1.10	0.79	105.54
5	VUOC	27.90	1.39E+00	3.25E+01	20				
	ANN FORBS	5.50	0.27		15	2.98	0.20	0.54	14.31
4	LARE	0.50	2.50E-02	5.83E-01	2				
4	PLSP	5.00	2.50E-01	5.83E+00	15				
	TOTAL		8.44	100.00		9.2070E+01			4.4209E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	9.27
OPPO	15.60
PHHO	1.26
Shrub production	<u>26.13</u>
TOTAL	<u>468.22</u>

PRECIPITATION DATA

RAIN GUAGE NO.	BUD	KIMBAL EXCL	JULY	11/77
OCT. 15 TO APR. 15	=	3.09		
APR. 15 TO JULY 1	=	3.57		
JULY 1 TO SEPT. 1	=	1.38		
SEPT. 1 TO OCT. 15	=	.99		
SEASON TOTAL	=	9.03		
LONG TERM AVERAGE	=	9.39		

Utilization

AGSM
POSE

Percent of Total Prod.

25%
5%

2002 BUFFAL CREEK EXCL JULY 13/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*ANDI	12.00	6.00E-01	1.30E+01	2				
1	*PHHO	8.00	4.00E-01	8.70E+00	10				
6	*ARTR	168.30	8.41E+00		10				
6	*OPPO	28.30	1.41E+00		4				
	PER GRASS	57.30	3.36		20	49.89	2.49	0.74	239.56
3	AGSP	41.60	2.08E+00	4.52E+01	20	35.77	1.79	0.86	1.7176E+02
3	BOGR	4.00	2.00E-01	4.35E+00	5	1.65	0.33	0.41	7.9228E+00
3	POSE	21.70	1.08E+00	2.36E+01	18	12.47	0.69	0.57	5.9877E+01
	PER FORBS	0.90	0.04		3	0.73	0.24	0.81	3.51
2	ERPU	0.40	2.00E-02	4.35E-01	2				
2	SPCO	0.50	2.50E-02	5.43E-01	3				
	ANN GRASS	1.80	0.09		7	1.57	0.22	0.87	7.54
5	BRTE	1.80	9.00E-02	1.96E+00	7				
	ANN FORBS	2.00	0.10		13	0.40	0.03	0.20	1.92
4	LEDE	0.50	2.50E-02	5.43E-01	5				
4	PLSP	1.50	7.50E-02	1.63E+00	13				
	TOTAL		14.43	100.00		5.2590E+01			2.5252E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	214.54
EULA	0.03
OPPO	4.55
PHHO	6.30
XASA	0.36
Shrub production	225.79
Total	<u>478.31</u>

PRECIPITATION DATA

RAIN GUAGE NO.	BUFFAL CREEK EXCL JULY 13/77
OCT. 15 TO APR. 15 =	3.27
APR. 15 TO JULY 1 =	3.25
JULY 1 TO SEPT. 1 =	2.99
SEPT. 1 TO OCT. 15 =	1.85
SEASON TOTAL	11.36
LONG TERM AVERAGE =	10.76

No Utilization

2022 BUFFAL CREEK EXCL JULY 13/77 OUT NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1x1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
6	*ARTR	77.40	3.87E+00		7				
6	*OPPO	37.30	1.86E+00		4				
	PER GRASS	55.90	2.79		20	60.92	3.05	1.09	292.52
3	AGSM	7.80	3.90E-01	1.16E+01	12	11.87	0.99	1.52	5.6996E+01
3	AGSP	23.60	1.18E+00	3.50E+01	16	37.47	2.34	1.59	1.7992E+02
3	BOGR	3.80	1.90E-01	5.64E+00	3	0.75	0.25	0.20	3.6013E+00
3	POSE	20.70	1.03E+00	3.07E+01	20	10.83	0.54	0.52	5.2002E+01
	PER FORBS	1.10	0.05		4	4.51	1.13	4.10	21.66
2	ERPU	0.10	T	1.48E-01	1				
2	MACA	0.10	T	1.48E-01	1				
2	SPCO	0.90	4.50E-02	1.34E+00	4				
	ANN GRASS	1.10	0.05		8	6.07	0.76	5.52	29.15
5	BRTE	1.10	5.50E-02	1.63E+00	8				
	ANN FORBS	9.30	0.46		20	13.86	0.69	1.49	66.55
4	LEDE	0.30	1.50E-02	4.45E-01	3				
4	PLSP	9.00	4.50E-01	1.34E+01	20				
	TOTAL		9.10	100.00		8.5360E+01			4.0987E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	127.3
EULA	0.01
OPPO	13.84
PHHO	6.7
Shrub production	147.85
Total	<u>557.72</u>

PRECIPITATION DATA

RAIN GUAGE NO.	BUFFAL CREEK EXCL JULY 13/77
OCT. 15 TO APR. 15	= 3.27
APR. 15 TO JULY 1	= 3.25
JULY 1 TO SEPT. 1	= 2.99
SEPT. 1 TO OCT. 15	= 1.85
SEASON TOTAL	= 11.36
LONG TERM AVERAGE	= 10.76

Utilization - Percent of Total Prod.

AGSM 5%

AGSP 5%

2003 BURNED WAGON EXCL JULY 06/77 INSIDE NATIVE

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLCT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 200	TOTAL WGT. GMS/ 200 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ATGA	987.0	4.93E+00	9.98E+01	94	164.88	1.75	0.17	7.9170E+01
	PER GRASS	0.1	5.00E-04		1	0.04	0.04	0.40	1.9207E-02
3	SIHY	0.1	T	1.01E-02	1	0.04	0.04	0.40	1.9207E-02
	PER FORBS	2.10	0.01		16	1.80	0.11	0.86	0.86
2	CYMO	2.0	T	2.02E-01	16				
2	MACA	0.1	T	1.01E-02	1				
	TOTAL		4.9	100.00		1.66720E+02			8.00538E+01

* NCT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

No Shrubs

Total

80.05

PRECIPITATION DATA

RAIN GAUGE NO. BURNED WAGON EXCL JULY 06/77

OCT. 15 TO APR. 15 = 1.04

APR. 15 TO JULY 1 = 1.62

JULY 1 TO SEPT. 1 = 1.72

SEPT. 1 TO OCT. 15 = .23

SEASON TOTAL = 4.61

LONG TERM AVERAGE = 6.02

No utilization

13 07 OCT 12 RUNQWKA...
2003 BURNED WAGON EXCL JULY 06/77 OUT NATIVE

NUMBER OF PLOTS
CCVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 200	TOTAL WGT. GMS/ SQ.FT.	AVE. WGT. /PLOT RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ATGA	1354.5	6.77E+00	9.97E+01	99	205.30	2.07	0.15	9.8579E+01
6	*OPPU	0.2	T		1				
	PER GRASS	2.0	1.00E-02		7	1.68	0.24	0.84	8.0668E-01
3	SIHY	2.0	T	1.47E-01	7	1.68	0.24	0.84	8.0668E-01
	PER FORBS	2.10	0.01		18	1.29	0.07	0.61	0.62
2	CYMO	1.9	T	1.40E-01	18				
2	MACA	0.2	T	1.47E-02	1				
	TOTAL		6.8	100.00		2.08270E+02			1.00005E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARSP

	0.162
Shrub production	<u>0.162</u>
Total	<u>100.17</u>

PRECIPITATION DATA

RAIN GUAGE NO.	BURNED WAGON	EXCL	JULY	06/77
OCT. 15 TO APR. 15	=	1.04		
APR. 15 TO JULY 1	=	1.62		
JULY 1 TO SEPT. 1	=	1.72		
SEPT. 1 TO OCT. 15	=	.23		
SEASON TOTAL	=	4.61		
LONG TERM AVERAGE	=	6.02		

No utilization

1501 COCHRA EXCL

JULY 15/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	0.40	2.00E-02	1.74E+00	2				
6	*ARTR	158.00	7.90E+00		10				
6	*OPPO	8.00	4.00E-01		1				
	PER GRASS	17.70	0.88		16	24.94	1.56	1.41	119.75
3	AGSM	6.00	3.00E-01	2.61E+01	15	9.17	0.61	1.53	4.4032E+01
3	POSE	11.70	5.85E-01	5.09E+01	16	15.77	0.99	1.35	7.5723E+01
	ANN GRASS	4.80	0.24		16	4.50	0.28	0.94	21.61
5	B RTE	4.70	2.35E-01	2.04E+01	16				
5	VUOC	0.10	T	4.35E-01	1				
	ANN FORBS	0.10	0.00		1	0.01	0.01	0.10	0.05
4	DEPI	0.10	T	4.35E-01	1				
	TOTAL		9.45	100.00		2.9450E+01			1.4141E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO

203.96
6.15
210.11
351.52

PRECIPITATION DATA

RAIN GUAGE NO. COCHRA EXCL

JULY 15/77

OCT. 15 TO APR. 15 = 2.80

APR. 15 TO JULY 1 = 2.83

JULY 1 TO SEPT. 1 = 1.73

SEPT. 1 TO OCT. 15 = 1.27

SEASON TOTAL = 8.63

LONG TERM AVERAGE = 10.11

No Utilization

1501 COCHRA EXCL

JULY 15/77 OUT NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE IX1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
1	*PHHO	0.20	T	4.20E-01	1				
6	*ARTR	10.00	5.00E-01		2				
6	*OPPO	2.00	1.00E-01		1				
	PER GRASS	33.40	1.67		20	50.69	2.53	1.52	243.40
3	AGSM	23.10	1.15E+00	4.85E+01	20	42.38	2.12	1.83	2.0350E+02
3	POSE	10.30	5.15E-01	2.16E+01	17	8.31	0.49	0.81	3.9902E+01
	ANN GRASS	13.80	0.69		18	10.10	0.56	0.73	48.50
5	BRTE	13.60	6.80E-01	2.86E+01	18				
5	VUOC	0.20	1.00E-02	4.20E-01	2				
	ANN FORBS	0.20	0.01		2	0.07	0.03	0.35	0.34
4	PLSP	0.20	1.00E-02	4.20E-01	2				
	TOTAL		2.98	100.00		6.0860E+01			2.9223E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO

220.1
3.15
223.25
<u>515.48</u>

Shrub production
Total

PRECIPITATION DATA

RAIN GAUGE NO.	COCHRA EXCL
OCT. 15 TO APR. 15	= 2.80
APR. 15 TO JULY 1	= 2.83
JULY 1 TO SEPT. 1	= 1.73
SEPT. 1 TO OCT. 15	= 1.27
SEASON TOTAL	= 8.63
LONG TERM AVERAGE	= 10.11

JULY 15/77

No Utilization

1501 COCHRA EXCL

JULY 15/77 INSIDE PITTED

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
1	*PHHO	2.00	1.00E-01	7.66E+00	1				
6	*ARTR	322.00	1.61E+01		14				
	PER GRASS	17.10	0.85		13	15.07	1.16	0.88	72.36
3	AGSM	4.10	2.05E-01	1.57E+01	13	7.25	0.56	1.77	3.4812E+01
3	AGSP	5.20	2.60E-01	1.99E+01	2	4.57	2.28	0.88	2.1944E+01
3	BOGR	0.30	1.50E-02	1.15E+00	1	0.06	0.06	0.20	2.8810E-01
3	POSE	7.50	3.75E-01	2.87E+01	13	3.19	0.25	0.43	1.5317E+01
	ANN GRASS	7.00	0.35		14	6.38	0.46	0.91	30.63
5	BRTE	6.80	3.40E-01	2.61E+01	14				
5	VUOC	0.20	1.00E-02	7.66E-01	2				
	TOTAL		17.40	100.00		2.1450E+01			1.0300E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO
PHHO

181.9
5.4
0.74
188.04
291.04

Shrub production
Total

PRECIPITATION DATA

RAIN GUAGE NO. COCHRA EXCL
OCT. 15 TO APR. 15 = 2.80
APR. 15 TO JULY 1 = 2.83
JULY 1 TO SEPT. 1 = 1.73
SEPT. 1 TO OCT. 15 = 1.27
SEASON TOTAL = 8.63
LONG TERM AVERAGE = 10.11

JULY 15/77

No Utilization

1501 COCHRA EXCL

JULY 15/77 OUT SPRAY

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20	AVE. WGT. /PLOT	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*OPPO	2.50	1.25E-01		1				
	PER GRASS	28.80	1.44		20	50.84	2.54	1.77	244.12
3	AGSM	20.50	1.02E+00	5.26E+01	20	44.66	2.23	2.18	2.1444E+02
3	POSE	8.30	4.15E-01	2.13E+01	19	6.18	0.33	0.74	2.9674E+01
	ANN GRASS	10.10	0.50		20	11.53	0.58	1.14	55.36
5	BRTS	9.10	4.55E-01	2.33E+01	20				
5	VUOC	1.00	5.00E-02	2.56E+00	7				
	ANN FORBS	0.10	0.00		1	0.08	0.08	0.80	0.38
4	PLSP	0.10	T	2.56E-01	1				
	TOTAL		2.07	100.00		6.2450E+01			2.9987E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO

Shrub production
Total

10.59
10.59
310.46

PRECIPITATION DATA

RAIN GAUGE NO. COCHRA EXCL

JULY 15/77

OCT. 15 TO APR. 15 = 2.80
 APR. 15 TO JULY 1 = 2.83
 JULY 1 TO SEPT. 1 = 1.73
 SEPT. 1 TO OCT. 15 = 1.27
 SEASON TOTAL = 8.63
 LONG TERM AVERAGE = 10.11

No Utilization

1901 CUMBER EXCL NO 1 AUGUST 16/77 INSIDE NATIVE

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	NUMBER PLOTS = 20		ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	PLOT SIZE 1x1					
1	ATGA	48.50	2.42E+00	7.96E+01	6		7.48	1.25	0.15	3.5917E+01
6	*ARTR	0.30	1.50E-02		1					
6	*SAVE	75.00	4.75E+00		9					
	PER GRASS	12.40	0.62		18		15.51	0.86	1.25	74.47
3	AGSM	5.50	2.75E-01	9.03E+00	18		9.23	0.51	1.68	4.4320E+01
3	POSE	3.70	1.85E-01	6.08E+00	12		2.05	0.17	0.55	9.8435E+00
3	SIHY	3.20	1.60E-01	5.25E+00	9		4.23	0.47	1.32	2.0311E+01
	TOTAL		7.81	100.00			2.2990E+01			1.1039E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	12.14
CHVI	.09
SAVE	138.1
TESP	.99
Shrub production	<u>151.32</u>
Total	<u>261.71</u>

PRECIPITATION DATA

RAIN GUAGE NO.	CUMBER EXCL	NO 1	AUGUST 16/77
OCT. 15 TO APR. 15 =	1.90		
APR. 15 TO JULY 1 =	.27		
JULY 1 TO SEPT. 1 =	2.90		
SEPT. 1 TO OCT. 15 =	.17		
SEASON TOTAL =	5.24		
LONG TERM AVERAGE =	8.04		

No Utilization

1901 CUMBER EXCL NO 1 AUGUST 16/77 OUTSIDO NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ATGA	13.50	6.75E-01	5.70E+01	4	7.57	1.89	0.56	3.6349E+01
1	*PHHO	0.50	2.50E-02	2.11E+00	1	0.00	0.00	0.00	0.0000
6	*ARTR	13.00	6.50E-01		6				
6	*TESP	1.00	5.00E-02		1				
	PER GRASS	9.70	0.48		11	10.24	0.93	1.06	49.17
3	AGSM	4.70	2.35E-01	1.98E+01	11	5.52	0.50	1.17	2.6505E+01
3	POSE	4.10	2.05E-01	1.73E+01	8	2.36	0.29	0.58	1.1332E+01
3	SIHY	0.90	4.50E-02	3.80E+00	4	2.36	0.59	2.62	1.1332E+01
	TOTAL		1.88	100.00		1.7810E+01			8.5518E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	7.02
CHVI	0.63
PHHO	0.48
SAVE	4.86
TESP	2.10
	15.09
	100.61

Shrub production

Total

PRECIPITATION DATA

RAIN GUAGE NO.	CUMBER EXCL	NO 1	AUGUST 16/77
OCT. 15 TO APR. 15 =	1.90		
APR. 15 TO JULY 1 =	.27		
JULY 1 TO SEPT. 1 =	2.90		
SEPT. 1 TO OCT. 15 =	.17		
SEASON TOTAL =	5.24		
LONG TERM AVERAGE =	8.04		

Utilization

Percent of Total Prod.

AGSM

46.6%

POSE

52.6%

1901 CUMBER EXCL NO 1 AUGUST 16/77 INSIDE SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	10.00	5.00E-01		1				
	PER GRASS	11.90	0.59		18	9.75	0.54	0.82	46.82
3	AGSM	5.40	2.70E-01	4.54E+01	18	5.43	0.30	1.01	2.6073E+01
3	POSE	4.80	2.40E-01	4.03E+01	14	2.08	0.15	0.43	9.9875E+00
3	SIHY	1.70	8.50E-02	1.43E+01	7	2.24	0.32	1.32	1.0756E+01
	TOTAL		1.09	100.00		9.7500E+00			4.6817E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

*ARTR
CHVIShrub production
Total

13.13
.09
<u>13.22</u>
<u>60.04</u>

PRECIPITATION DATA

RAIN GAUGE NO.	CUMBER EXCL	NO 1	AUGUST 16/77
OCT. 15 TO APR. 15 =	1.90		
APR. 15 TO JULY 1 =	.27		
JULY 1 TO SEPT. 1 =	2.90		
SEPT. 1 TO OCT. 15 =	.17		
SEASON TOTAL =	5.24		
LONG TERM AVERAGE =	8.04		

No Utilization

1901 CUMBER EXCL NO 1 AUGUST 16/77 OUTSID SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20	AVE. WGT. /PLOT	WGT./ UNIT BASAL AREAS	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
1	ATGA	27.00	1.35E+00	5.26E+01	2	32.91	16.45	1.22	1.5802E+02
	PER GRASS	24.30	1.21		17	8.25	0.49	0.34	39.61
3	AGSM	15.50	7.75E-01	3.02E+01	17	5.91	0.35	0.38	2.8378E+01
3	POSE	8.40	4.20E-01	1.64E+01	11	1.99	0.18	0.24	9.5554E+00
3	SIHY	0.40	2.00E-02	7.80E-01	2	0.35	0.17	0.87	1.6806E+00
	TOTAL		2.56	100.00		4.1160E+01			1.9764E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

CHVI

SAVE

 Shrub production
Total

 0.89
40.10
40.99
238.63

PRECIPITATION DATA

RAIN GAUGE NO.	CUMBER EXCL	NO 1	AUGUST 16/77
OCT. 15 TO APR. 15 =	1.90		
APR. 15 TO JULY 1 =	.27		
JULY 1 TO SEPT. 1 =	2.90		
SEPT. 1 TO OCT. 15 =	.7		
SEASON TOTAL =	5.24		
LONG TERM AVERAGE =	8.04		

Utilization

AGSM

POSE

Percent of Total Production

63.5%

51.3%

13 54 OCT 11 RUNK5JA...
1201 CUMBER EXCL NO 2 AUGUST 16/77 INSIDE NATIVE

NUMBER PLOTS = 20 PLOT SIZE 1X1										
PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FRFQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.	
1	*PHLO	4.00	2.00E-01	3.97E+00	6					
1	*PHMU	10.00	5.00E-01	9.92E+00	2					
6	*ARTR	1.20	6.00E-02		2					
6	*CHVI	7.50	3.75E-01		5					
6	*ERMI	3.20	1.60E-01		2					
6	*LEPU	2.50	1.25E-01		1					
	PER GRASS	81.90	4.09		16	51.34	3.21	0.63	246.52	
3	AGSM	23.60	1.18E+00	2.34E+01	16	18.70	1.17	0.79	8.9792E+01	
3	POFE	54.00	2.70E+00	5.36E+01	14	31.16	2.23	0.58	1.4962E+02	
3	POSE	4.30	2.15E-01	4.27E+00	3	1.48	0.49	0.34	7.1065E+00	
	PER FORBS	4.90	0.24		4	1.53	0.38	0.31	7.35	
2	AGGL	0.60	3.00E-02	5.95E-01	2					
2	COPA	1.80	9.00E-02	1.79E+00	4					
2	ERSU	2.50	1.25E-01	2.48E+00	2					
	TOTAL		5.76	100.00		5.2870E+01			2.5387E+02	

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARLO	77.9
CHVI	19.2
ERMI	1.07
ERSU	1.38
LEPU	3.12
PHHO	0.12
PHMV	0.92
TECA	4.88
Shrub production	108.59
Total	362.46

PRECIPITATION DATA

RAIN GUAGE NO.	CUMBER EXCL	NO 2	AUGUST 16/77
OCT. 15 TO APR. 15 =	3.20		
APR. 15 TO JULY 1 =	1.25		
JULY 1 TO SEPT. 1 =	2.94		
SEPT. 1 TO OCT. 15 =	.14		
SEASON TOTAL =	7.53		
LONG TERM AVERAGE =	9.44		

No Utilization

1201 CUMBER EXCL NO 2 AUGUST 16/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	PLOT SIZE 1X1 ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*ANDI	6.50	3.25E-01	1.24E+01	3				
1	*PHLO	2.30	1.15E-01	4.38E+00	12				
1	*PHMU	1.80	9.00E-02	3.43E+00	1				
6	*ARTR	165.60	8.28E+00		13				
6	*LEPU	4.00	2.00E-01		4				
6	*CHVI	9.80	4.90E-01		7				
6	*ERMI	10.90	5.45E-01		8				
6	*TECA	5.00	2.50E-01		1				
	PER GRASS	40.00	2.00		19	29.06	1.53	0.73	139.54
3	AGSM	17.90	8.95E-01	3.41E+01	19	16.06	0.85	0.90	7.7115E+01
3	POFE	19.00	9.50E-01	3.62E+01	8	12.60	1.57	0.66	6.0501E+01
3	POSE	3.10	1.55E-01	5.90E+00	4	0.40	0.10	0.13	1.9207E+00
	PER FORBS	1.90	0.09		2	1.26	0.63	0.66	6.05
2	ASMI	0.30	1.50E-02	5.71E-01	2				
2	ERSU	1.50	7.50E-02	2.86E+00	2				
2	TRI	0.10	1.90E-01		1				
	TOTAL		12.39	100.00		3.0320E+01			1.4559E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ANDI	3.20
ARLO	144.30
CHVI	6.40
ERMI	1.75
ERSU	2.33
LEPU	0.28
PHHO	3.78
TECA	0.12
Shrub production	162.16
Total	<u>307.75</u>

PRECIPITATION DATA

RAIN GAUGE NO.	CUMBER EXCL	NO 2	AUGUST 16/77
OCT. 15 TO APR. 15	=	3.20	
APR. 15 TO JULY 1	=	1.25	
JULY 1 TO SEPT. 1	=	2.94	
SEPT. 1 TO OCT. 15	=	.14	
SEASON TOTAL	=	7.53	
LONG TERM AVERAGE	=	9.44	

Utilization	Percent of Total Production
AGSM	23.3%
POFE	55.5%

1201 CUMBER EXCL NO 2 AUGUST 16/77 INSIDE SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT. BASE 20	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ.				
1	*PHLO	0.70	3.50E-02	8.03E-01	3				
6	*CHVI	20.00	1.00E+00		10				
	PER GRASS	77.50	3.87		20	78.23	3.91	1.01	375.64
3	AGSM	28.70	1.43E+00	3.29E+01	20	36.73	1.84	1.28	1.7637E+02
3	POFE	44.80	2.24E+00	5.14E+01	15	40.37	2.69	0.90	1.9384E+02
3	POSE	4.00	2.00E-01	4.59E+00	3	1.13	0.38	0.28	5.4259E+00
	PER FORHS	9.00	0.45		7	11.19	1.60	1.24	53.73
2	ASDI	0.20	T	2.29E-01	1				
2	LILE	8.80	4.40E-01	1.01E+01	7				
	TOTAL		5.36	100.00		8.9420E+01			4.2937E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

CHVI	12.3
ERMI	0.27
ERSU	0.5
LEPU	0.19
TECA	2.63

Shrub production

Total

15.89
445.26

PRECIPITATION DATA

RAIN GAUGE NO.	CUMBER EXCL	NO 2	AUGUST 16/77
OCT. 15 TO APR. 15 =	3.20		
APR. 15 TO JULY 1 =	1.25		
JULY 1 TO SEPT. 1 =	2.94		
SEPT. 1 TO OCT. 15 =	.14		
SEASON TOTAL =	7.53		
LONG TERM AVERAGE =	9.44		

No Utilization

1201 CUMBER EXCL NO 2 AUGUST 16/77 OUTSID SPRAY

NUMBER PLOTS = 20

PLOT SIZE 1x1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*ANDI	7.00	3.50E-01	8.07E+00	2				
1	*PHLO	0.90	4.50E-02	1.04E+00	5				
1	*PHMU	0.50	2.50E-02	5.77E-01	1				
6	*CHVI	14.30	7.15E-01		12				
6	*ERMI	0.70	3.50E-02		2				
	PER GRASS	77.90	3.89		20	29.86	1.49	0.38	143.38
3	AGSM	46.90	2.34E+00	5.41E+01	20	17.95	0.90	0.38	8.6190E+01
3	POFE	28.00	1.40E+00	3.23E+01	12	11.85	0.99	0.42	5.6900E+01
3	POSE	3.00	1.50E-01	3.46E+00	1	0.06	0.06	0.02	2.8810E-01
	PER FORBS	0.20	0.01		1	0.00	0.00	0.00	0.00
2	ASDI	0.20	T	2.31E-01	1				
	ANN FORBS	0.20	0.01		2	0.02	0.01	0.10	0.10
4	CHEN	0.20	1.00E-02	2.31E-01	2				
	TOTAL		5.08	100.00		2.9880E+01			1.4347E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ANDI	0.69
CHVI	6.05
ERMI	0.25
PHHO	3.02
TECA	0.59
Shrub production	10.60
Total	<u>154.07</u>

PRECIPITATION DATA

RAIN GUAGE NO.	CUMBER EXCL	NO 2	AUGUST 16/77
OCT. 15 TO APR. 15	=	3.20	
APR. 15 TO JULY 1	=	1.25	
JULY 1 TO SEPT. 1	=	2.94	
SEPT. 1 TO OCT. 15	=	.14	
SEASON TOTAL	=	7.53	
LONG TERM AVERAGE	=	9.44	

Utilization	Percent of Total Production
AGSM	42.2%
POFE	55.2%

1202 CUMBER EXCL NO 3 AUGUST 16/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*ANDI	8.00	4.00E-01	1.02E+01	4				
1	*PHMU	11.00	5.50E-01	1.40E+01	5				
6	*ARTR	261.00	1.30E+01		8				
6	*CHVI	1.30	6.50E-02		3				
6	*FRMI	0.80	4.00E-02		2				
6	*TECA	1.00	5.00E-02		1				
	PER GRASS	58.60	2.93		15	29.70	1.98	0.51	142.61
3	AGSM	16.50	8.25E-01	2.10E+01	15	14.46	0.96	0.88	6.9432E+01
3	AGSP	12.30	6.15E-01	1.56E+01	5	8.59	1.72	0.70	4.1247E+01
3	POFE	23.30	1.16E+00	2.96E+01	8	5.22	0.65	0.22	2.5065E+01
3	POSE	6.50	3.25E-01	8.27E+00	8	1.43	0.18	0.22	6.8664E+00
	PER FORBS	1.00	0.05		5	0.45	0.09	0.45	2.16
2	PHLO	1.00	5.00E-02	1.27E+00	5				
	TOTAL		17.13	100.00		3.0150E+01			1.4477E+02

* NOT COMPUTED IN PERCENT COMPOSITION

I - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ANDI	6.32
ARTR	204.2
CHVI	1.04
ERMI	0.23
PHHO	19.3
TECA	.06
Shrub production	<u>231.15</u>
Total	<u>375.92</u>

PRECIPITATION DATA

RAIN GUAGE NO.	CUMBER EXCL	NO 3	AUGUST 16/77
OCT. 15 TO APR. 15	=	4.10	
APR. 15 TO JULY 1	=	1.25	
JULY 1 TO SEPT. 1	=	3.90	
SEPT. 1 TO OCT. 15	=	.14	
SEASON TOTAL	=	9.39	
LONG TERM AVERAGE	=	11.12	

No Utilization

1202 CUMBER EXCL NO 3 AUGUST 16/77 OUTSID NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*ANDI	14.50	7.25E-01	2.93E+01	4				
1	*PHMU	9.40	4.70E-01	1.90E+01	6				
6	*ARTR	430.00	2.15E+01		13				
6	*CHVI	6.40	3.20E-01		5				
6	*ERMI	2.00	1.00E-01		2				
	PER GRASS	24.90	1.24		15	12.99	0.87	0.52	62.37
3	AGSM	8.80	4.40E-01	1.78E+01	15	6.12	0.41	0.70	2.9386E+01
3	AGSP	13.50	6.75E-01	2.73E+01	6	5.93	0.97	0.43	2.7994E+01
3	POSE	2.60	1.30E-01	5.25E+00	5	1.04	0.21	0.40	4.9938E+00
	PER FORBS	0.70	0.03		1	0.27	0.27	0.39	1.30
2	ASDI	0.20	T	4.04E-01	1				
2	ASPU	0.50	2.50E-02	1.01E+00	1				
	TOTAL		24.39	100.00		1.3260E+01			6.3670E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ANDI	6.25
ARTR	175.10
CHVI	2.37
ERMI	0.51
PHHO	0.06
Shrub production	190.63
Total	<u>254.30</u>

PRECIPITATION DATA

RAIN GAUGE NO.	CUMBER EXCL	NO 3	AUGUST 16/77
OCT. 15 TO APR. 15 =	4.10		
APR. 15 TO JULY 1 =	1.25		
JULY 1 TO SEPT. 1 =	3.90		
SEPT. 1 TO OCT. 15 =	.14		
SEASON TOTAL	9.39		
LONG TERM AVERAGE	11.12		

Utilization

AGSM

AGSP

Percent of Total Production

6.5%

12.0%

1202 CUMBER EXCL NO 3 AUGUST 16/77 INSIDE SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*CHVI	5.50	2.75E-01		2				
6	*SYOC	0.50	2.50E-02		1				
	PER GRASS	92.30	4.61		20	73.13	3.66	0.79	351.15
3	AGSM	48.60	2.43E+00	5.17E+01	20	47.25	2.36	0.97	2.2688E+02
3	AGSP	21.00	1.05E+00	2.23E+01	6	15.08	2.51	0.72	7.2410E+01
3	POFE	20.50	1.02E+00	2.18E+01	6	9.99	1.66	0.49	4.7969E+01
3	POSE	2.20	1.10E-01	2.34E+00	3	0.81	0.27	0.37	3.8894E+00
	PER FORBS	1.70	0.08		5	1.09	0.22	0.64	5.23
2	ASDI	0.30	1.50E-02	3.19E-01	1				
2	PHLO	1.40	7.00E-02	1.49E+00	5				
	TOTAL		5.00	100.00		7.4220E+01			3.5638E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	15.3
CHVI	8.16
ERMI	0.48
PHHO	2.73
SYOC	7.81
TECA	5.75

Shrub production

Total

40.23

396.61

PRECIPITATION DATA

RAIN GAUGE NO.

CUMBER EXCL NO 3 AUGUST 16/77

OCT. 15 TO APR. 15 = 4.10

APR. 15 TO JULY 1 = 1.25

JULY 1 TO SEPT. 1 = 3.90

SEPT. 1 TO OCT. 15 = .14

SEASON TOTAL = 9.39

LONG TERM AVERAGE = 11.12

No Utilization

1202 CUMBER EXCL NO 3 AUGUST 16/77 OUTSID SPRAY

NUMBER PLOTS = 20

PLOT SIZE 1x1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT. GMS/20	AVE. WGT. /PLOT	WGT./ UNIT BASAL	LBS PER AC.
		AREA PER- CENT	BASAL AREA		BASE 20	SQ.FT.	OCCUR- RENCES	AREA	
1	*ANDI	20.00	1.00E+00	2.27E+01	6				
1	*PHMU	14.10	7.05E-01	1.60E+01	7				
6	*AKTR	7.00	3.50E-01		1				
6	*CHVI	3.80	1.90E-01		6				
6	*ERMI	1.40	7.00E-02		3				
6	*TECA	8.00	4.00E-01		2				
	PER GRASS	53.90	2.69		17	26.91	1.58	0.50	129.21
3	AGSM	26.60	1.33E+00	3.02E+01	17	13.78	0.81	0.52	6.6167E+01
3	AGSP	9.50	4.75E-01	1.08E+01	5	6.45	1.29	0.68	3.0971E+01
3	POFE	9.90	4.95E-01	1.12E+01	8	5.26	0.66	0.53	2.5257E+01
3	POSE	6.90	3.45E-01	7.82E+00	7	0.88	0.13	0.13	4.2255E+00
3	STCO	1.00	5.00E-02	1.13E+00	1	0.54	0.54	0.54	2.5929E+00
	PER FORBS	0.20	0.01		2	0.05	0.02	0.25	0.24
2	PHLO	0.20	1.00E-02	2.27E-01	2				
	TOTAL		5.42	100.00		2.6960E+01			1.2945E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ANDI	3.12
AKTR	53.26
CHVI	8.83
ERMI	0.73
OPPO	.06
PHHO	2.72
TECA	0.56

Shrub production 69.28
Total 198.73

PRECIPITATION DATA

RAIN GAUGE NO. CUMBER EXCL NO 3 AUGUST 16/77

OCT. 15 TO APR. 15 = 4.10

APR. 15 TO JULY 1 = 1.25

JULY 1 TO SEPT. 1 = 3.90

SEPT. 1 TO OCT. 15 = .14

SEASON TOTAL = 9.39

LONG TERM AVERAGE = 11.12

Utilization	Percent of Total Production
AGSM	31.2%
AGSP	62.1%
POFE	44.4%
POSE	5.6%
STCO	50.0%

1902 CUMBER EXCL NO 4 AUGUST 16/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
1	ARSP	2.00	1.00E-01	3.59E+00	4	1.96	0.49	0.98	9.4113E+00
1	ATGA	50.00	2.50E+00	8.98E+01	9	4.85	0.54	0.10	2.3288E+01
1	*PHHD	3.00	1.50E-01	5.39E+00	1	0.00	0.00	0.00	0.0000
	PER GRASS	0.70	0.03		2	0.42	0.21	0.60	2.02
3	POSE	0.20	T	3.59E-01	1	0.01	0.01	0.05	4.8017E-02
3	SIHY	0.50	2.50E-02	8.98E-01	2	0.41	0.20	0.82	1.9687E+00
	TOTAL		2.78	100.00		7.2300E+00			3.4716E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

EULA
TESP

	.05
	.06
Shrub production	.11
Total	34.83

PRECIPITATION DATA

RAIN GAUGE NO.	CUMBER EXCL	NO 4	AUGUST 16/77
OCT. 15 TO APR. 15 =	1.90		
APR. 15 TO JULY 1 =	.25		
JULY 1 TO SEPT. 1 =	2.02		
SEPT. 1 TO OCT. 15 =	1.90		
SEASON TOTAL =	6.07		
LONG TERM AVERAGE =	8.40		

No Utilization

1902 CUMBER EXCL NO 4 AUGUST 16/77 OUTSID NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ARSP	5.00	2.50E-01	2.36E+00	4	0.89	0.22	0.18	4.2735E+00
1	ATGA	203.20	1.02E+01	9.61E+01	15	15.73	1.05	0.08	7.5531E+01
1	*PHHO	1.00	5.00E-02	4.73E-01	1	0.00	0.00	0.00	0.0000
6	*CHVI	1.00	5.00E-02		1				
6	*TESP	4.00	2.00E-01		2				
	PER. GRASS	2.30	0.11		9	2.41	0.27	1.05	11.57
3	AGSM	0.30	1.50E-02	1.42E-01	1	0.16	0.16	0.53	7.6827E-01
3	SIHY	2.00	1.00E-01	9.46E-01	9	2.25	0.25	1.12	1.0804E+01
	TOTAL		10.82	100.00		1.9030E+01			9.1376E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

EULA
TESPShrub production
Total

.89
<u>5.32</u>
<u>6.21</u>
<u>97.58</u>

PRECIPITATION DATA

RAIN GUAGE NO.	CUMBER EXCL	NO 4	AUGUST 16/77
OCT. 15 TO APR. 15 =	1.90		
APR. 15 TO JULY 1 =	.25		
JULY 1 TO SEPT. 1 =	2.02		
SEPT. 1 TO OCT. 15 =	1.90		
SEASON TOTAL =	6.07		
LONG TERM AVERAGE =	8.40		

No Utilization

2004 DEMER EXCL

JULY 21/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLNT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
6	*ARTR	382.70	1.91E+01		14				
6	*OPPO	44.00	2.20E+00		7				
	PER GRASS	37.40	1.87		18	19.94	1.11	0.53	95.75
3	AGSM	7.60	3.80E-01	2.00E+01	15	6.28	0.42	0.83	3.0155E+01
3	BOGR	4.70	2.35E-01	1.24E+01	4	2.23	0.56	0.47	1.0708E+01
3	POSE	22.90	1.14E+00	6.03E+01	18	10.48	0.58	0.46	5.0322E+01
3	SIHY	2.20	1.10E-01	5.79E+00	2	0.95	0.47	0.43	4.5616E+00
	ANN GRASS	0.60	0.03		5	0.09	0.02	0.15	0.43
5	BRIE	0.10	T	2.63E-01	1				
5	VUOC	0.50	2.50E-02	1.32E+00	5				
	TOTAL		23.23	100.00		2.0030E+01			9.6178E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPOShrub production
Total

170.6
36.17
<u>206.77</u>
<u>302.95</u>

PRECIPITATION DATA

RAIN GAUGE NO.	DEMER	EXCL	JULY	21/77
OCT. 15 TO APR. 15	=	1.80		
APR. 15 TO JULY 1	=	1.90		
JULY 1 TO SEPT. 1	=	2.15		
SEPT. 1 TO OCT. 15	=	.80		
SEASON TOTAL	=	6.65		
LONG TERM AVERAGE	=	8.11		

Utilization	Percent of Total Production
AGSM	23%

2024 DEMER EXCL

JULY 21/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS./20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
6	*ARTR	78.00	3.90E+00		6				
6	*OPPO	72.50	3.63E+00		8				
	PER GRASS	52.60	2.63		16	20.34	1.27	0.39	97.67
3	AGSM	7.10	3.55E-01	1.22E+01	11	5.65	0.51	0.80	2.7130E+01
3	BOGR	32.40	1.62E+00	5.58E+01	12	9.68	0.81	0.30	4.6480E+01
3	POSE	12.50	6.25E-01	2.15E+01	16	4.25	0.27	0.34	2.0407E+01
3	SIHY	0.60	3.00E-02	1.03E+00	1	0.76	0.76	1.27	3.6493E+00
	ANN GRASS	4.50	0.22		13	3.87	0.30	0.86	18.58
5	BRTS	1.70	8.50E-02	2.93E+00	10				
5	VUOC	2.80	1.40E-01	4.82E+00	13				
	ANN FORBS	1.00	0.05		5	0.37	0.07	0.37	1.78
4	LARE	0.10	T	1.72E-01	1				
4	LEDE	0.20	1.00E-02	3.44E-01	2				
4	PLSP	0.50	2.50E-02	8.61E-01	5				
4	UNK#1	0.20	1.00E-02	3.44E-01	2				
	TOTAL		10.43	100.00		2.4580E+01			1.1803E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPOShrub production
Total

103.9
48.05
<u>151.95</u>
<u>269.98</u>

PRECIPITATION DATA

RAIN CLAGE NO.	DEMER	EXCL
OCT. 15 TO APR. 15 =	1.80	
APR. 15 TO JULY 1 =	1.90	
JULY 1 TO SEPT. 1 =	2.15	
SEPT. 1 TO OCT. 15 =	.80	
SEASON TOTAL =	6.65	
LONG TERM AVERAGE =	8.11	

JULY 21/77

Utilization	Percent of Total Production
AGSM	3%
POSE	2%

2005 DUTCH NICK FLATS JULY 05/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				ABS. PLOT FREQ.	CCMPD- SITION BASE 20				
6	*OPPO	75.40	3.77E+00		15				
	PER GRASS	343.20	17.16		20	65.15	3.26	0.19	312.83
3	BOGR	333.30	1.67E+01	9.71E+01	20	56.80	2.84	0.17	2.7274E+02
3	POSE	9.90	4.95E-01	2.88E+00	9	8.35	0.93	0.84	4.0094E+01
	TOTAL	20.93	100.00			6.5150E+01			3.1283E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO

	87.46
Shrub production	<u>87.46</u>
Total	<u>400.29</u>

PRECIPITATION DATA
RAIN GAUGE NO.

	DUTCH	NICK	FLATS	JULY	05/77
OCT. 15 TO APR. 15	=	1.39			
APR. 15 TO JULY 1	=	1.92			
JULY 1 TO SEPT. 1	=	2.54			
SEPT. 1 TO OCT. 15	=	.23			
SEASON TOTAL	=	6.08			
LONG TERM AVERAGE	=	6.99			

Utilization

Percent of total Prod.

BOGR

9.9%

POSE

4.3%

2005 DUTCH NICK FLATS JULY 05/77 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER-	PERCENT CCMPO-	ABS. PLOT	TOTAL WGT.	AVE. WGT.	WGT./ UNIT	LBS PER
		BASAL AREA	CENT BASAL AREA	SITION	FREQ.	GMS/20 SQ.FT.	/PLOT OCCUR-	BASAL AREA	AC.
		PER-	CENT		20		RENCES		
6	*OPPC	80.00	4.00E+00		13				
	PER GRASS	402.00	20.10		20	47.14	2.36	0.12	226.35
3	BUGR	393.00	1.96E+01	9.78E+01	20	43.57	2.18	0.11	2.0921E+02
3	POSE	9.00	4.50E-01	2.24E+00	5	3.57	0.71	0.40	1.7142E+01
	TOTAL	24.10	100.00			4.7140E+01			2.2635E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARSP
OPPO

Shrub production

Total

.07
97.7
97.77
324.12

PRECIPITATION DATA
RAIN GAUGE NO.

DUTCH NICK FLATS JULY 05/77

OCT. 15 TO APR. 15 = 1.39
 APR. 15 TO JULY 1 = 1.92
 JULY 1 TO SEPT. 1 = 2.54
 SEPT. 1 TO OCT. 15 = .23
 SEASON TOTAL = 6.08
 LONG TERM AVERAGE = 6.99

No Utilization

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	4.00	2.00E-01	1.56E+01	3				
6	*ARTR	192.00	9.60E+00		10				
6	*CELA	2.00	1.00E-01		1				
6	*CHVI	1.40	7.00E-02		3				
6	*GRSP	3.00	1.50E-01		1				
	PER GRASS	21.70	1.08		15	14.31	0.95	0.66	68.71
3	AGSM	10.00	5.00E-01	3.89E+01	15	8.49	0.57	0.85	4.0766E+01
3	CAEL	0.20	1.00E-02	7.78E-01	2	0.02	0.01	0.10	9.6034E-02
3	ORHY	11.40	5.70E-01	4.44E+01	6	5.79	0.46	0.51	2.7802E+01
3	SIHY	0.10	T	3.89E-01	1	0.01	0.01	0.10	4.8017E-02
	TOTAL		11.20	100.00		1.4310E+01			6.8712E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	112.64
ATCO	1.02
CELA	7.43
CHVI	.11
OPPO	.77
PHHO	7.25
Shrub production	<u>129.22</u>
Total	<u>197.93</u>

PRECIPITATION DATA

RAIN GAUGE NO. FARSON EXCL

AUGUST 10/77

OCT. 15 TO APR. 15 = --
 APR. 15 TO JULY 1 = --
 JULY 1 TO SEPT. 1 = G.I.
 SEPT. 1 TO OCT. 15 = .54
 SEASON TOTAL = --
 LONG TERM AVERAGE = 6.52

GI = Gauge installed

No Utilization

0404 FARSON EXCL

AUGUST 10.77 OUTSID NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	3.20	1.60E-01	7.88E+00	3				
6	*ARTR	77.00	3.85E+00		7				
6	*ATCO	6.00	3.00E-01		2				
6	*CELA	2.00	1.00E-01		1				
6	*CHVI	2.50	1.25E-01		2				
	PER GRASS	24.30	1.21		13	5.85	0.45	0.24	28.09
3	AGSM	7.10	3.55E-01	1.75E+01	13	1.78	0.14	0.25	8.5470E+00
3	CAEL	0.60	3.00E-02	1.48E+00	2	0.06	0.03	0.10	2.8810E-01
3	CRHY	14.80	7.40E-01	3.65E+01	9	3.74	0.42	0.25	1.7958E+01
3	POSE	1.50	7.50E-02	3.69E+00	1	0.22	0.22	0.15	1.0564E+00
3	SIHY	0.30	1.50E-02	7.39E-01	1	0.05	0.05	0.17	2.4008E-01
	PER FORBS	13.10	0.65		1	0.01	0.01	0.00	0.05
2	ARHO2	13.00	6.50E-01	3.20E+01	1				
2	SPCO	0.10		2.46E-01	1				
	TOTAL		6.40	100.00		5.8600E+00			2.8138E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARHO	4.65
ARTR	66.1
CELA	3.17
CHVI	3.53
EROV	0.55
GRSP	0.61
OPPO	0.99
PHHO	8.26
Shrub production	87.85
Total	115.99

PRECIPITATION DATA

RAIN GAUGE NO. FARSON EXCL

AUGUST 10.77

OCT. 15 TO APR. 15 =
 APR. 15 TO JULY 1 =
 JULY 1 TO SEPT. 1 = GI
 SEPT. 1 TO OCT. 15 = .54
 SEASON TOTAL = ---
 LONG TERM AVERAGE = 6.52

GI = Gauge installed

No Utilization

1007 GRANIT MOUNT EXCL JULY 29/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1 COMPO- SITION FREQ.	ABS. PLOT BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	21.90	1.09E+00	1.52E+01	6				
6	*ARTR	116.00	5.80E+00		8				
6	*CHVI	2.30	1.15E-01		2				
	PER GRASS	109.90	5.49		19	49.16	2.59	0.45	236.05
3	AGSM	21.00	1.05E+00	1.46E+01	19	20.71	1.09	0.99	9.9443E+01
3	POFE	84.40	4.22E+00	5.86E+01	18	27.83	1.55	0.33	1.3363E+02
3	POSE	4.50	2.25E-01	3.13E+00	6	0.62	0.10	0.14	2.9770E+00
	PER FORBS	10.30	0.51		15	5.90	0.39	0.57	28.33
2	ASMI	8.50	4.25E-01	5.90E+00	15				
2	CRE	0.40	2.00E-02	2.78E-01	1				
2	ERPU	1.10	5.50E-02	7.64E-01	5				
2	TRI	0.30	1.50E-02	2.08E-01	3				
	ANN FORBS	1.90	0.09		2	2.33	1.16	1.23	11.19
4	CORA	1.90	9.50E-02	1.32E+00	2				
	TOTAL		13.11	100.00		5.7390E+01			2.7557E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	325.90
CHVI	8.06
PHHO	76.51
Shrub production	<u>410.47</u>
Total	<u>686.04</u>

PRECIPITATION DATA

RAIN GUAGE NO.

GRANIT MOUNT EXCL JULY 29/77

OCT. 15 TO APR. 15 =	N.R.	Not read till later date
APR. 15 TO JULY 1 =	5.18	
JULY 1 TO SEPT. 1 =	3.07	
SEPT. 1 TO OCT. 15 =	.35	
SEASON TOTAL =	8.60	
LONG TERM AVERAGE =	8.76	

No Utilization

1007 GRANIT MOUNT EXCL JULY 29/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL	AVE.	PLOT SIZE 1X1		TOTAL	AVE.	WGT./	LBS
		TRANS BASAL AREA PER- CENT	PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	WGT. GMS/20 SQ.FT.	WGT. /PLOT OCCUR- RENCES	UNIT BASAL AREA	PER AC.
1	*ARHO	0.10	T	7.28E-02	1				
1	*PHHO	37.30	1.86E+00	2.71E+01	10				
6	*ARND	3.00	1.50E-01		2				
6	*ARTR	279.50	1.40E+01		12				
	PER GRASS	41.50	4.57		19	53.92	2.84	0.59	258.91
3	AGSM	17.30	8.65E-01	1.26E+01	19	18.39	0.97	1.06	8.8303E+01
3	POFE	65.20	3.26E+00	4.75E+01	19	34.72	1.83	0.53	1.6671E+02
3	POSE	0.00	4.50E-01	6.55E+00	6	0.81	0.10	0.09	3.8894E+00
	PER FORBS	7.80	0.39		7	3.95	0.56	0.51	18.97
2	ASMI	5.30	2.65E-01	3.86E+00	7				
2	ERPU	1.80	9.00E-02	1.31E+00	3				
2	TRI	0.70	3.50E-02	5.09E-01	3				
	ANN FORBS	0.70	0.03		2	0.76	0.38	1.09	3.65
4	CORA	0.70	3.50E-02	5.09E-01	2				
	TOTAL	20.99	100.00			5.8630E+01			2.8152E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ANRO	1.06
ARTR	371.71
CHVI	1.42
PHHO	100.04
Shrub production	474.23
Total	<u>755.75</u>

PRECIPITATION DATA

RAIN GAUGE NO.	GRANIT MOUNT EXCL JULY 29/77
OCT. 15 TO APR. 15 =	N.R.
APR. 15 TO JULY 1 =	5.18
JULY 1 TO SEPT. 1 =	3.07
SEPT. 1 TO OCT. 15 =	.35
SEASON TOTAL =	8.60
LONG TERM AVERAGE =	8.76

N.R. = Not read till later

Utilization Percent of Total Production

AGSM	10%
POFE	14%
POSE	.5%

1977 GRANIT MOUNT EXCL JULY 29/77 INSIDE SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1x1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FRFQ. BASE 20				
1	*ARHO	0.60	3.00E-02	4.10E-01	1				
1	*PHHO	2.00	1.00E-01	1.37E+00	1				
6	*AKTR	43.00	2.15E+00		2				
	PER GRASS	142.60	7.13		20	126.67	6.33	0.89	608.23
3	AGSM	44.60	2.23E+00	3.05E+01	20	71.07	3.55	1.59	3.4126E+02
3	POFE	94.40	4.72E+00	6.46E+01	17	54.29	3.19	0.58	2.6068E+02
3	POSE	3.00	1.50E-01	2.05E+00	2	1.13	0.56	0.38	5.4259E+00
3	SIHY	0.60	3.00E-02	4.10E-01	1	0.18	0.18	0.30	8.6430E-01
	PER FORBS	1.00	0.05		3	0.77	0.26	0.77	3.70
2	ASMI	0.80	4.00E-02	5.47E-01	3				
2	CRE	0.20	T	1.37E-01	1				
	TOTAL		9.46	100.00		1.2744E+02			6.1193E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	145.75
CHVI	10.11
PHHO	7.07
Shrub production	<u>162.93</u>
Total	<u>774.86</u>

PRECIPITATION DATA

RAIN GAUGE NO.	GRANIT MOUNT EXCL JULY 29/77
OCT. 15 TO APR. 15 =	NR
APR. 15 TO JULY 1 =	5.18
JULY 1 TO SEPT. 1 =	3.07
SEPT. 1 TO OCT. 15 =	.35
SEASON TOTAL =	8.60
LONG TERM AVERAGE =	8.76

N.R. = Not read till later

No Utilization

1007 GRANIT MOUNT EXCL JULY 29/77 OUTSID SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
1	*ARHO	0.40	2.00E-02	2.77E-01	2				
1	*PHHO	35.10	1.75E+00	2.43E+01	10				
6	*ARTR	85.60	4.28E+00		10				
6	*CHVI	7.00	3.50E-01		2				
	PER GRASS	99.40	4.97		20	56.13	2.81	0.56	269.52
3	AGSM	36.80	1.84E+00	2.55E+01	20	32.20	1.61	0.87	1.5461E+02
3	POFE	46.50	2.32E+00	3.22E+01	14	19.71	1.41	0.42	9.4641E+01
3	POSE	16.10	8.05E-01	1.11E+01	14	4.22	0.30	0.26	2.0263E+01
	PER FORBS	7.50	0.37		6	2.76	0.46	0.37	13.25
2	ASHI	4.70	2.35E-01	3.25E+00	6				
2	ERPU	2.70	1.35E-01	1.87E+00	5				
2	TRI	0.10	T	6.92E-02	1				
	ANN FORBS	2.10	0.10		2	2.30	1.15	1.10	11.04
4	CORA	2.10	1.05E-01	1.45E+00	2				
	TOTAL		11.85	100.00		6.1190E+01			2.9382E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	133.95
CHVI	2.56
PHHO	67.42
Shrub production	203.93
Total	497.75

PRECIPITATION DATA

RAIN GUAGE NO.	GRANIT MOUNT EXCL JULY 29/77
OCT. 15 TO APR. 15 =	N.R.
APR. 15 TO JULY 1 =	5.18
JULY 1 TO SEPT. 1 =	3.07
SEPT. 1 TO OCT. 15 =	.35
SEASON TOTAL =	8.60
LONG TERM AVERAGE =	8.76

N.R. = Not read till later

Utilization	Percent of Total Production
AGSM	16%
POFE	50%
POSE	5%

0901 HALOGE PASTUR EXCL 1 JULY 6/77 INSIDE NATIVE

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 200	TOTAL WGT. GMS/ /PL:77 OCCUR- RENCES	AVE. WGT. /PL:77 OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ATGA	1572.4	8.36E+00	9.51E+01	142	395.04	2.78	0.24	1.8969E+02
6	*ARSP	48.3	2.41E-01		14				
6	*OPPO	17.0	8.50E-02		5				
	PER GRASS	92.5	4.12E-01		81	79.67	0.98	0.97	3.8255E+01
3	POSE	1.7	T	9.66E-02	3	0.48	0.16	0.28	2.3048E-01
3	SIHY	80.8	4.04E-01	4.59E+00	81	79.19	0.98	0.98	3.8025E+01
	PER FORBS	0.50	0.00		5	0.98	0.20	1.96	0.47
2	ALTE	0.5	T	2.84E-02	5				
	ANN FORBS	3.60	0.02		10	1.05	0.10	0.29	0.50
4	DEPI	0.3	T	1.71E-02	3				
4	GIPU	0.4	T	2.27E-02	4				
4	HAGL	1.4	T	7.96E-02	10				
4	LARE	1.0	T	5.69E-02	9				
4	MATA	0.5	T	2.84E-02	5				
	TOTAL		9.1	100.00		4.76740E+02			2.28916E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO

Shrub production

Total

6.026.02234.93

PRECIPITATION DATA

RAIN GUAGE NO. HALOGE PASTUR EXCL 1 JULY 6/77

OCT. 15 TO APR. 15	=	.92
APR. 15 TO JULY 1	=	1.33
JULY 1 TO SEPT. 1	=	1.32
SEPT. 1 TO OCT. 15	=	.30
SEASON TOTAL	=	3.87
LONG TERM AVERAGE	=	5.34

No Utilization

0905 HALOGE PASTUR EXCL 2 JULY 06/77 INSIDE NATIVE

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 200	TOTAL WGT. GMS/ 200 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ATGA	821.7	4.11E+00	6.78E+01	156	465.62	2.98	0.57	2.2358E+02
6	ARSP	5.0	2.50E-02		2				
6	*OPPO	1.0	T		1				
	PER GRASS	375.1	1.88E+00		130	391.70	3.01	1.04	1.8808E+02
3	AGCR	0.8	T	6.60E-02	1	3.41	3.41	4.26	1.6374E+00
3	POSE	16.8	8.40E-02	1.39E+00	26	4.62	0.18	0.27	2.2184E+00
3	SIHY	357.5	1.79E+00	2.95E+01	130	383.67	2.95	1.07	1.8423E+02
	PER FORBS	10.40	0.05		53	6.18	0.12	0.59	2.97
2	ALTE	10.3	5.15E-02	8.50E-01	53				
2	AST	0.1	T	T	1				
	ANN FORBS	4.50	0.02		8	1.29	0.16	0.29	0.62
4	GIL	0.3	T	2.48E-02	3				
4	GIPU	1.0	T	8.25E-02	5				
4	LARE	1.8	T	1.49E-01	8				
4	LEDE	0.1	T	T	1				
4	MATA	1.1	T	9.08E-02	5				
4	SILI	0.2	T	1.65E-02	1				
	TOTAL		6.1	100.00		8.67570E+02			4.15246E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO

Shrub production

4.65

4.65

Total

419.90

PRECIPITATION DATA

RAIN GAUGE NO. HALOGE PASTUR EXCL 2 JULY 06/77

OCT. 15 TO APR. 15 = 1.34
 APR. 15 TO JULY 1 = 1.46
 JULY 1 TO SEPT. 1 = 1.33
 SEPT. 1 TO OCT. 15 = .30
 SEASON TOTAL = 4.43
 LONG TERM AVERAGE = 5.86

No utilization

10 27 DEC 01 RUNM2CA... 0903 HALOGE PASTUR EXCL 3 JULY 06/77 INSIDE NATIVE

NUMBER OF PLCTS
CCVER = 200, PRODUCTION = 20
PLCT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT CCMPO- SITION	ABS. PLOT FREQ. BASE 200	TOTAL WGT. GMS/ 200 SQ.FT.	AVE. WGT. /PLCT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ATGA	839.6	4.2CE+00	8.70E+01	45	449.51	3.10	0.54	2.1584E+02
6	*CPPC	16.0	3.00E-02		5				
	PER GRASS	136.7	5.33E-01		99	217.48	2.20	2.04	1.0443E+02
3	SIHY	176.7	5.33E-01	1.11E+01	99	217.48	2.20	2.04	1.0443E+02
	PER FORBS	9.30	0.05		61	10.71	0.18	1.15	5.14
2	ALTE	9.3	4.65E-02	9.64E-01	61				
	ANN FORBS	9.50	0.05		45	3.90	0.09	0.41	1.87
4	GIL	0.6	T	6.22E-02	6				
4	GIPI	2.2	1.10E-02	2.28E-01	20				
4	LARE	5.5	2.75E-02	5.70E-01	45				
4	LEDE	0.3	T	3.11E-02	3				
4	MATA	0.9	T	9.33E-02	8				
	TOTAL		4.9	100.00		6.8160CE+02			3.27283E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO

Shrub production

Total

10.08

10.08

512.49

PRECIPITATION DATA

RAIN GAUGE NO. HALOGE PASTUR EXCL 3 JULY 06/77

OCT. 15 TO APR. 15 = 1.16
 APR. 15 TO JULY 1 = 1.27
 JULY 1 TO SEPT. 1 = 1.24
 SEPT. 1 TO OCT. 15 = .28
 SEASON TOTAL = 3.95
 LONG TERM AVERAGE = 5.07

No Utilization

0913 HORSE CREEK EXCL JULY 27/77 INSIDE AGSM

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	213.00	1.06E+01		6				
6	*OPPO	48.00	2.40E+00		2				
	PER GRASS	28.00	1.40		20	47.49	2.37	1.70	228.03
3	AGSM	26.50	1.32E+00	7.07E+01	20	46.98	2.35	1.77	2.2558E+02
3	POSE	1.50	7.50E-02	4.00E+00	5	0.51	0.10	0.34	2.4489E+00
	ANN GRASS	9.50	0.47		11	8.67	0.79	0.91	41.63
5	BRE	9.50	4.75E-01	2.53E+01	11				
	TOTAL		14.92	100.00		5.6160E+01			2.6966E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO
XASA

Shrub production
Total

4.0
6.16
.71
10.87
280.53

PRECIPITATION DATA

RAIN GAUGE NO.	HORSE CREEK EXCL JULY 27/77
OCT. 15 TO APR. 15 =	3.53
APR. 15 TO JULY 1 =	E2.75
JULY 1 TO SEPT. 1 =	2.03
SEPT. 1 TO OCT. 15 =	1.24
SEASON TOTAL =	E9.55
LONG TERM AVERAGE =	E11.07

E = Estimated

No Utilization

0913 HORSE CREEK EXCL JULY 27/77 OUTSID AGSM

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	5.20	2.60E-01	1.42E+01	6				
6	*ARTR	137.50	6.88E+00		8				
6	*OPPO	9.00	4.50E-01		2				
6	*XASA	5.70	2.85E-01		4				
	PER GRASS	20.80	1.54		18	37.41	2.08	1.21	179.63
3	AGSM	24.00	1.20E+00	6.56E+01	18	27.78	1.54	1.16	1.3339E+02
3	AGSP	3.50	1.75E-01	9.56E+00	4	3.41	0.85	0.97	1.6374E+01
3	POSE	3.30	1.65E-01	9.02E+00	7	6.22	0.89	1.88	2.9867E+01
	PER FORBS	0.60	0.03		1	0.05	0.05	0.08	0.24
2	LOSI	0.60	3.00E-02	1.64E+00	1				
	TOTAL		9.44	100.00		3.7460E+01			1.7987E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	76.1
OPPO	17.16
PHHO	1.70
XASA	9.95
Shrub production	104.91
Total	284.78

PRECIPITATION DATA

RAIN GAUGE NO.	HOKSE	CREEK	EXCL	JULY	27/77
OCT. 15 TO APR. 15	= 3.53				
APR. 15 TO JULY 1	= E2.75				E = Estimated
JULY 1 TO SEPT. 1	= 2.03				
SEPT. 1 TO OCT. 15	= 1.24				
SEASON TOTAL	= E9.55				
LONG TERM AVERAGE	= E11.07				

Utilization	Percent of Total Production
AGSM	23%
AGSP	42%
POSE	27%

0913 HORSE CREEK EXCL JULY 27/77 INSIDE AGSP

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	2.00	1.00E-01	2.98E+00	1				
6	*ARTR	20.00	1.00E+00		5				
6	*OPPO	3.00	1.50E-01		2				
6	*XASA	1.20	6.00E-02		1				
	PER GRASS	64.90	3.24		18	75.59	4.20	1.16	362.96
3	AGSP	63.90	3.19E+00	9.51E+01	18	75.13	4.17	1.18	3.6075E+02
3	POSE	1.00	5.00E-02	1.49E+00	2	0.46	0.23	0.46	2.2088E+00
	PER FORBS	0.30	0.01		1	0.12	0.12	0.40	0.58
2	CANU	0.30	1.50E-02	4.46E-01	1				
	TOTAL		4.57	100.00		7.5710E+01			3.6354E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	16.9
OPPO	8.16
PHHO	.81
XASA	1.54
Shrub production	27.41
Total	<u>390.95</u>

PRECIPITATION DATA

RAIN GAUGE NO.	HORSE CREEK EXCL JULY 27/77
OCT. 15 TO APR. 15 =	3.53
APR. 15 TO JULY 1 =	E2.75
JULY 1 TO SEPT. 1 =	2.03
SEPT. 1 TO OCT. 15 =	1.24
SEASON TOTAL =	E9.55
LONG TERM AVERAGE =	E11.07

E = Estimated

No Utilization

0913 HORSE CREEK EXCL JULY 27/77 OUTSID AGSP

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT.	AVE. WGT. /PLOT	WGT./ UNIT BASAL AREA	LBS PER AC.
		AREA PER- CENT	BASAL AREA		BASE 20	GMS/20 SQ.FT.	OCCUR- RENCES		
1	*HAAC	10.00	5.00E-01	1.67E+01	1				
1	*PHHO	12.50	6.25E-01	2.08E+01	12				
6	*ARTR	213.00	1.06E+01		12				
6	*OPPO	39.00	1.95E+00		3				
6	*XASA	1.40	7.00E-02		5				
	PER GRASS	35.80	1.79		11	43.80	3.98	1.22	210.31
3	AGSM	4.60	2.30E-01	7.67E+00	11	13.82	1.26	3.00	6.6359E+01
3	AGSP	26.90	1.34E+00	4.48E+01	11	28.32	2.57	1.05	1.3598E+02
3	POSE	4.30	2.15E-01	7.17E+00	7	1.66	0.24	0.39	7.9708E+00
	PER FORRS	1.70	0.08		3	2.44	0.81	1.44	11.72
2	CRBR	0.50	2.50E-02	8.33E-01	1				
2	PECL	0.70	3.50E-02	1.17E+00	3				
2	SPCO	0.50	2.50E-02	8.33E-01	2				
	TOTAL		15.67	100.00		4.6240E+01			2.2203E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T = TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	93.3
OPPO	14.8
PHHO	2.44
XASA	8.55
	<u>120.09</u>
Shrub production	<u>342.12</u>
Total	<u>342.12</u>

PRECIPITATION DATA

RAIN GAUGE NO.	HORSE CREEK EXCL	JULY 27/77
OCT. 15 TO APR. 15 =	3.53	
APR. 15 TO JULY 1 =	E2.75	E = Estimated
JULY 1 TO SEPT. 1 =	2.03	
SEPT. 1 TO OCT. 15 =	1.24	
SEASON TOTAL =	E9.55	
LONG TERM AVERAGE =	E11.07	

Utilization	Percent of Total Production
AGSM	42%
AGSP	44%
POSE	19%

0914 KANE DEER EXCL JULY 27/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER-	PERCENT COMPO-	ABS. PLOT	TOTAL WGT.	AVE. WGT.	WGT./ UNIT	LBS PER
		BASAL AREA	CENT AREA	SITION	FREQ.	GMS/20 SQ.FT.	/PLOT OCCUR-	BASAL AREA	AC.
		PER-	AREA		20		RENCES		
1	*ARFR	1.00	5.00E-02	3.52E+00	1				
1	*ARHO	0.40	2.00E-02	1.41E+00	1				
1	*PHHO	2.00	1.00E-01	7.04E+00	3				
6	*ARNH	27.00	1.35E+00		1				
6	*ARTR	1.00	5.00E-02		1				
6	*JUSC	237.00	1.18E+01		5				
6	*XASA	0.50	2.50E-02		2				
	PER GRASS	23.00	1.15		9	8.71	0.97	0.38	41.82
3	ACGR	23.00	1.15E+00	8.10E+01	9	8.71	0.97	0.38	4.1823E+01
	PER FORBS	0.70	0.03		1	1.23	1.23	1.76	5.91
2	PHAU	0.70	3.50E-02	2.46E+00	1				
	ANN FORBS	1.30	0.06		3	0.01	0.00	0.01	0.05
4	CAMI	0.30	1.50E-02	1.06E+00	1				
4	EUSE	0.10	T	3.52E-01	1				
4	UNK1	0.90	4.50E-02	3.17E+00	3				
	TOTAL		14.69	100.00		9.9500E+00			4.7777E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

NO SHRUB DATA COLLECTED

PRECIPITATION DATA

RAIN GAUGE NO.	KANE	DEER	EXCL	JULY	27/77
OCT. 15 TO APR. 15	=	3.79			
APR. 15 TO JULY 1	=	2.48			
JULY 1 TO SEPT. 1	=	1.56			
SEPT. 1 TO OCT. 15	=	1.34			
SEASON TOTAL	=	9.17			
LONG TERM AVERAGE	=	12.06			

NO UTILIZATION

0914 KANE DEER EXCL JULY 27/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1x1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	34.00	1.70E+00		2				
6	*JUSC	375.00	1.88E+01		5				
6	*XASA	1.70	8.50E-02		3				
	PER GRASS	18.40	0.92		10	4.82	0.48	0.26	23.14
3	AGGR	18.20	9.10E-01	9.68E+01	10	4.81	0.48	0.26	2.3096E+01
3	POSE	0.20	T	1.06E+00	1	0.01	0.01	0.05	4.8017E-02
	PER FORBS	0.40	0.02		2	0.15	0.07	0.37	0.72
2	UNK1	0.40	2.00E-02	2.13E+00	2				
	TOTAL		21.47	100.00		4.9700E+00			2.3864E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

No Shrub Data Collected

PRECIPITATION DATA

RAIN GAUGE NO.	KANE	DEER	EXCL	JULY	27/77
OCT. 15 TO APR. 15	=	3.79			
APR. 15 TO JULY 1	=	2.48			
JULY 1 TO SEPT. 1	=	1.56			
SEPT. 1 TO OCT. 15	=	1.34			
SEASON TOTAL	=	9.17			
LONG TERM AVERAGE	=	12.06			

No Utilization

0914 KANE DEER EXCL JULY 27/77 INSIDE SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT ABS.	COMPO- SITION FREQ.				
1	*ARFR	4.00	2.00E-01	4.43E+00	2				
6	*AKTK	0.10	T		1				
6	*KASA	6.80	3.40E-01		5				
	PER GRASS	45.10	2.25		15	20.42	1.36	0.45	98.05
3	AGGR	37.70	1.88E+00	4.17E+01	15	13.95	0.93	0.37	6.6984E+01
3	POSE	1.40	7.00E-02	1.55E+00	4	0.31	0.08	0.22	1.4885E+00
3	STCO	6.00	3.00E-01	6.64E+00	4	6.16	1.54	1.03	2.9578E+01
	PER FORBS	27.00	1.35		12	25.87	2.16	0.96	124.22
2	ERCO	22.50	1.12E+00	2.49E+01	12				
2	EROV	4.50	2.25E-01	4.98E+00	3				
	ANN GRASS	0.60	0.03		2	0.52	0.26	0.87	2.50
5	BRTS	0.60	3.00E-02	6.64E-01	2				
	ANN FORBS	13.60	0.68		8	1.18	0.15	0.09	5.67
4	LARE	1.00	5.00E-02	1.11E+00	4				
4	PHLI	7.10	3.55E-01	7.86E+00	5				
4	UNK1	5.50	2.75E-01	6.09E+00	6				
	TOTAL		4.86	100.00		4.7990E+01			2.3043E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

No Shrub Data Collected

PRECIPITATION DATA

RAIN GAUGE NO.	KANE	DEER	EXCL	JULY	27/77
OCT. 15 TO APR. 15 =	3.79				
APR. 15 TO JULY 1 =	2.48				
JULY 1 TO SEPT. 1 =	1.56				
SEPT. 1 TO OCT. 15 =	1.34				
SEASON TOTAL =	9.14				
LONG TERM AVERAGE =	12.06				

No Utilization

G914 KANE DEER EXCL JULY 27/77 OUTSID SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*ARFR	4.70	2.35E-01	1.21E+01	2				
6	*JUSC	7.00	3.50E-01		1				
6	*KASA	41.60	2.08E+00		13				
	PER GRASS	21.00	1.05		8	7.05	0.88	0.34	33.85
3	AGGR	18.30	9.15E-01	4.72E+01	8	6.10	0.76	0.33	2.9290E+01
3	POSE	2.70	1.35E-01	6.96E+00	5	0.95	0.19	0.35	4.5616E+00
	PER FORBS	12.70	0.63		10	11.56	1.16	0.91	55.51
2	ERI	9.30	4.65E-01	2.40E+01	10				
2	MEN	2.60	1.30E-01	6.70E+00	2				
2	UNK1	0.80	4.00E-02	2.06E+00	3				
	ANN GRASS	0.30	0.01		3	0.28	0.09	0.93	1.34
5	BRTF	0.30	1.50E-02	7.73E-01	3				
	ANN FORBS	0.10	0.00		1	0.04	0.04	0.40	0.19
4	LARE	0.10		2.58E-01	1				
	TOTAL		4.37	100.00		1.8930E+01			9.0896E+01

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

No Shrub Data Collected

PRECIPITATION DATA

RAIN GAUGE NO.	KANE	DEER	EXCL	JULY	27/77
OCT. 15 TO APR. 15	=	3.79			
APR. 15 TO JULY 1	=	2.48			
JULY 1 TO SEPT. 1	=	1.56			
SEPT. 1 TO OCT. 15	=	1.34			
SEASON TOTAL	=	9.17			
LONG TERM AVERAGE	=	12.07			

No Utilization

Q921 KANE G.R.I. EXCL JULY 27/77 INSIDE SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				ABS. PLOT FREQ.	COMPO- SITION				
6	*ARNI	67.50	3.37E+00		8				
6	*XASA	5.80	2.90E-01		3				
6	*JUSC	88.00	4.40E+00		1				
	PER GRASS	51.50	2.57		12	34.76	2.90	0.67	166.91
3	AGGR	46.30	2.31E+00	8.31E+01	12	33.70	2.81	0.73	1.6182E+02
3	POSE	5.20	2.60E-01	9.34E+00	4	1.06	0.26	0.20	5.0898E+00
	PER FORBS	0.80	0.04		4	1.76	0.44	2.20	8.45
2	DRA	0.50	2.50E-02	8.98E-01	4				
	TAOF	0.30	1.50E-02	5.39E-01	1				
	ANN GRASS	1.20	0.06		4	2.08	0.52	1.73	9.99
5	BRTE	1.20	6.00E-02	2.15E+00	4				
	ANN FORBS	2.20	0.11		3	1.22	0.41	0.55	5.86
4	UNK1	0.80	4.00E-02	1.44E+00	3				
4	UNK2	1.40	7.00E-02	2.51E+00	3				
	TOTAL		10.85	100.00		3.9820E+01			1.9120E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

No Shrub Data Collected

PRECIPITATION DATA

RAIN GUAGE NO.	KANE	G.R.I. EXCL	JULY	27/77
OCT. 15 TO APR. 15	=	3.99		
APR. 15 TO JULY 1	=	2.60		
JULY 1 TO SEPT. 1	=	1.56		
SEPT. 1 TO OCT. 15	=	1.47		
SEASON TOTAL	=	9.62		
LONG TERM AVERAGE	=	12.69		

No Utilization

0921 KANE G.R.I. EXCL JULY 27/77 OUT NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARND	86.40	4.32E+00		6				
6	*JUSC	515.00	2.58E+01		9				
6	*PHHO	0.20	1		1				
6	*UNK1	0.70	3.50E-02		3				
6	*XASA	3.40	1.70E-01		3				
	PER GRASS	3.80	0.19		4	2.10	0.52	0.55	10.08
3	AGGR	2.70	1.35E-01	3.91E+01	4	1.79	0.45	0.66	8.5950E+00
3	POSE	1.10	5.50E-02	1.59E+01	2	0.31	0.15	0.28	1.4885E+00
	PER FORBS	3.10	0.15		2	0.64	0.32	0.21	3.07
2	ERDC	0.10	1	1.45E+00	1				
2	ERDV	2.70	1.35E-01	3.91E+01	2				
2	HYAC	0.30	1.50E-02	4.35E+00	1				
	TOTAL		30.63	100.00		2.7400E+00			1.3157E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRAC

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

No Shrub data Collected

PRECIPITATION DATA

RAIN GAUGE NO.	KANE	G.R.I. EXCL	JULY	27/77
OCT. 15 TO APR. 15	=	3.99		
APR. 15 TO JULY 1	=	2.60		
JULY 1 TO SEPT. 1	=	1.56		
SEPT. 1 TO OCT. 15	=	1.47		
SEASON TOTAL	=	9.62		
LONG TERM AVERAGE	=	12.69		

No Utilization

1502 KIRBY CREEK EXCL JULY 14/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	PLOT SIZE 1X1 PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*SAVE	68.00	3.40E+00		5				
	PER GRASS	12.50	0.62		11	27.46	2.50	2.20	131.85
3	AGSM	9.20	4.60E-01	2.76E+01	11	25.61	2.33	2.78	1.2297E+02
3	POSE	3.30	1.65E-01	9.91E+00	3	1.85	0.62	0.56	8.8831E+00
	ANN GRASS	8.10	0.40		11	13.27	1.21	1.64	63.72
5	BRIE	8.10	4.05E-01	2.43E+01	11				
	ANN FORBS	12.70	0.63		20	19.01	0.95	1.50	91.28
4	ATAR	0.10	T	3.00E-01	1				
4	LARE	0.10	T	3.00E-01	1				
4	LEDE	0.20	T	6.01E-01	1				
4	LEPE	12.30	6.15E-01	3.69E+01	20				
	TOTAL		5.06	100.00		5.9740E+01			2.8685E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO
SAVE

	.09
	<u>123.5</u>
Shrub production	<u>123.59</u>
Total	<u>410.44</u>

PRECIPITATION DATA

RAIN GAUGE NO.	KIRBY CREEK EXCL JULY 14/77
OCT. 15 TO APR. 15 =	2.68
APR. 15 TO JULY 1 =	1.89
JULY 1 TO SEPT. 1 =	1.32
SEPT. 1 TO OCT. 15 =	1.18
SEASON TOTAL =	7.07
LONG TERM AVERAGE =	9.12

No utilization

1502 KIRBY CREEK EXCL JULY 14/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1x1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
6	*OPPD	23.00	1.15E+00		3				
6	*SAVE	194.00	9.70E+00		4				
	PER GRASS	13.00	0.65		8	25.72	3.21	1.98	123.50
3	AGSM	5.60	2.80E-01	2.62E+01	8	15.43	1.93	2.76	7.4090E+01
3	POSE	0.30	1.50E-02	1.40E+00	1	0.25	0.25	0.83	1.2004E+00
3	UNK1	7.10	3.55E-01	3.32E+01	5	10.04	2.01	1.41	4.8209E+01
	PER FORBS	0.10	0.00		1	0.07	0.07	0.70	0.34
2	SPCO	0.10	T	4.67E-01	1				
	ANN GRASS	5.70	0.28		13	7.12	0.55	1.25	34.19
5	BRTE	5.70	2.85E-01	2.66E+01	13				
	ANN FORBS	2.60	0.13		6	5.84	0.97	2.25	28.04
4	ATAR	1.20	6.00E-02	5.61E+00	6				
4	LARE	0.20	T	9.35E-01	1				
4	LEPE	0.60	3.00E-02	2.80E+00	6				
4	MDNU	0.50	2.50E-02	2.34E+00	2				
4	SAKA	0.10	T	4.67E-01	1				
	TOTAL		11.92	100.00		3.8750E+01			1.8607E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPD

SAVE

	0.74
	<u>104.0</u>
Shrub production	<u>104.74</u>
Total	<u><u>290.81</u></u>

PRECIPITATION DATA

RAIN GAUGE NO.	KIRBY CREEK EXCL JULY 14/77
OCT. 15 TO APR. 15 =	2.68
APR. 15 TO JULY 1 =	1.89
JULY 1 TO SEPT. 1 =	1.32
SEPT. 1 TO OCT. 15 =	1.18
SEASON TOTAL =	7.09
LONG TERM AVERAGE =	9.12

No utilization

10 16 OCT 12 RUN4QKA...
1001 LANDER ANT

AUGUST 03/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	2.80	1.40E-01	1.20E+01	2				
6	*ARTR	264.00	1.32E+01		15				
6	*OPPO	9.00	4.50E-01		2				
	PER GRASS	18.90	0.94		12	9.75	0.81	0.52	46.82
3	AGSM	4.50	2.25E-01	1.93E+01	12	2.74	0.23	0.61	1.3157E+01
3	BOGR	1.00	5.00E-02	4.29E+00	1	0.44	0.44	0.44	2.1127E+00
3	CAEL	1.10	5.50E-02	4.72E+00	3	0.40	0.13	0.36	1.9207E+00
3	ORHY	3.00	1.50E-01	1.29E+01	1	1.42	1.42	0.47	6.8184E+00
3	POSE	3.30	1.65E-01	1.42E+01	9	1.01	0.11	0.31	4.8497E+00
3	STCD	6.00	3.00E-01	2.58E+01	8	3.74	0.47	0.62	1.7958E+01
	PER FORBS	1.20	0.06		5	0.54	0.11	0.45	2.59
2	SPCO	1.20	6.00E-02	5.15E+00	5				
	ANN FORBS	0.40	0.02		4	0.09	0.02	0.22	0.43
4	PLPA	0.40	2.00E-02	1.72E+00	4				
	TOTAL		14.81	100.00		1.0380E+01			4.9842E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO
PHHO

209.8

21.9

5.23

Shrub production

236.93

Total

286.77

PRECIPITATION DATA

RAIN GUAGE NO. LANDER ANT
OCT. 15 TO APR. 15 = 4.34
APR. 15 TO JULY 1 = 1.65
JULY 1 TO SEPT. 1 = 1.00
SEPT. 1 TO OCT. 15 = .35
SEASON TOTAL = 7.34
LONG TERM AVERAGE = 8.55

AUGUST 03/77

No Utilization

1001 LANDER ANT.

AUGUST 03/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
1	*PHHO	3.70	1.85E-01	9.02E+00	5				
6	*ARTR	195.60	9.78E+00		10				
6	*OPPO	5.00	2.50E-01		1				
	PER GRASS	32.80	1.64		18	18.53	1.03	0.56	88.99
3	AGSM	8.00	4.00E-01	1.95E+01	18	7.21	0.40	0.90	3.4620E+01
3	BOGR	2.90	1.45E-01	7.07E+00	2	1.52	0.76	0.52	7.2986E+00
3	POSE	3.80	1.90E-01	9.27E+00	8	0.86	0.11	0.23	4.1295E+00
3	STCO	18.10	9.05E-01	4.41E+01	9	8.94	0.99	0.49	4.2927E+01
	PER FORBS	3.90	0.19		11	1.81	0.16	0.46	8.69
2	ERPU	1.00	5.00E-02	2.44E+00	1				
2	SPCO	2.90	1.45E-01	7.07E+00	11				
	ANN FORBS	0.60	0.03		6	0.06	0.01	0.10	0.29
4	PLPA	0.60	3.00E-02	1.46E+00	6				
	TOTAL		12.08	100.00		2.0400E+01			9.7955E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO
PHHO231.7
16.04
9.01Shrub production
Total256.75
354.71

PRECIPITATION DATA

RAIN CUAGE NO.	LANDER ANT
OCT. 15 TO APR. 15	= 4.34
APR. 15 TO JULY 1	= 1.65
JULY 1 TO SEPT. 1	= 1.00
SEPT. 1 TO OCT. 15	= .35
SEASON TOTAL	= 7.34
LONG TERM AVERAGE	= 8.55

AUGUST 03/77

No Utilization

1033 LOWER GOVT DRAW JULY 28/77 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	289.60	1.45E+01		15				
	PER GRASS	56.50	2.82		19	50.70	2.67	0.90	243.45
3	AGSM	18.80	9.40E-01	2.72E+01	19	23.67	1.25	1.26	1.1366E+02
3	POSE	0.40	2.00E-02	5.79E-01	1	0.17	0.17	0.42	8.1629E-01
3	STCO	37.30	1.86E+00	5.40E+01	9	26.86	2.98	0.72	1.2897E+02
	PER FORBS	4.80	0.24		2	12.41	6.20	2.59	59.59
2	ASDI	0.50	2.50E-02	7.24E-01	1				
2	CXSE	3.10	1.55E-01	4.49E+00	2				
2	SPCO	0.60	3.00E-02	8.68E-01	1				
2	VIAM	0.60	3.00E-02	8.68E-01	2				
	ANN GRASS	7.80	0.39		14	6.05	0.43	0.78	29.05
5	BRIE	7.80	3.90E-01	1.13E+01	14				
	TOTAL	17.93	100.00			6.9160E+01			3.3209E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPOShrub production
Total

759.6
1.51
761.11
1093.20

PRECIPITATION DATA

RAIN GUAGE NO.	LOWER	GOVT	DRAW	JULY	28/77
OCT. 15 TO APR. 15	=	2.55			
APR. 15 TO JULY 1	=	1.50			
JULY 1 TO SEPT. 1	=	2.46			
SEPT. 1 TO OCT. 15	=	.40			
SEASON TOTAL	=	6.91			
LONG TERM AVERAGE	=	10.60			

No Utilization

1003 LOWER GOVT DRAW JULY 28/77 OUT NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
6	*ARTR	419.00	2.09E+01		12				
6	*CHVI	8.00	4.00E-01		2				
	PER GRASS	26.80	1.34		18	25.21	1.40	0.94	121.05
3	AGSM	11.60	5.80E-01	3.20E+01	18	15.49	0.86	1.34	7.4378E+01
3	POSE	6.90	3.45E-01	1.91E+01	11	2.30	0.21	0.33	1.1044E+01
3	STCO	8.30	4.15E-01	2.29E+01	9	7.42	0.82	0.89	3.5629E+01
	PER FORBS	1.60	0.08		4	1.40	0.35	0.87	6.72
2	CRE	0.20	T	5.52E-01	1				
2	PEN	0.40	2.00E-02	1.10E+00	1				
2	SPCO	1.00	5.00E-02	2.76E+00	4				
	ANN GRASS	3.80	0.19		12	4.10	0.34	1.08	19.69
5	BRTE	3.70	1.85E-01	1.02E+01	12				
5	VUOC	0.10	T	2.76E-01	1				
	ANN FORBS	4.00	0.20		14	2.71	0.19	0.68	13.01
4	GIIN	3.50	1.75E-01	9.67E+00	14				
4	PLPA	0.50	2.50E-02	1.38E+00	3				
	TOTAL		23.16	100.00		3.3420E+01			1.6047E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	893.4
CHVI	0.65
EULA	0.12
OPPO	3.42
PHHO	6.13
Shrub production	903.72
Total	1064.19

PRECIPITATION DATA

RAIN GUAGE NO.	LOWER	GOVT	DRAW	JULY	28/77
OCT. 15 TO APR. 15	=	2.55			
APR. 15 TO JULY 1	=	1.50			
JULY 1 TO SEPT. 1	=	2.46			
SEPT. 1 TO OCT. 15	=	.40			
SEASON TOTAL	=	6.91			
LONG TERM AVERAGE	=	10.60			

Utilization Percent of Total Production

AGSM	7%
STCO	1%

1003 LOWER GOVT DRAW JULY 28/77 INSIDE SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL	AVE.	PERCENT	ABS.	TOTAL	AVE.	WGT./	LBS
		TRANS	PER-	COMPO-	PLOT	WGT.	WGT.	UNIT	PER
		BASAL	CENT	SITION	FREQ.	GMS/20	/PLOT	BASAL	AC.
		AREA	BASAL		BASE	SQ.FT.	OCCUR-	AREA	
		PER-	AREA		20		RENCES		
		CENT							
	PER GRASS	103.30	5.16		16	145.35	9.08	1.41	697.93
3	AGSM	16.90	8.45E-01	1.21E+01	16	28.26	1.77	1.67	1.3570E+02
3	POSE	3.80	1.90E-01	2.73E+00	6	1.34	0.22	0.35	6.4343E+00
3	STCO	82.60	4.13E+00	5.93E+01	15	115.75	7.72	1.40	5.5580E+02
	PER FORBS	2.20	0.11		3	0.81	0.27	0.37	3.89
2	SPCO	2.20	1.10E-01	1.58E+00	3				
	ANN GRASS	33.90	1.69		20	24.44	1.22	0.72	117.35
5	BRTE	33.90	1.69E+00	2.43E+01	20				
	TOTAL		6.97	100.00		1.7060E+02			8.1917E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPOShrub production
Total

49.4
7.98
<u>57.38</u>
<u>876.55</u>

PRECIPITATION DATA

RAIN GAUGE NO.	LOWER	GOVT	DRAW	JULY	28/77
OCT. 15 TO APR. 15 =	2.55				
APR. 15 TO JULY 1 =	1.50				
JULY 1 TO SEPT. 1 =	2.46				
SEPT. 1 TO OCT. 15 =	.40				
SEASON TOTAL =	6.91				
LONG TERM AVERAGE =	10.60				

No Utilization

1033 LOWER GOVT DRAW JULY 28/77 OUT SPRAY

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*AKTR	28.20	1.41E+00		2				
	PER GRASS	62.70	3.13		20	57.42	2.87	0.92	275.71
3	AGSM	27.80	1.39E+00	3.90E+01	20	38.69	1.93	1.39	1.8578E+02
3	KOCR	2.40	1.20E-01	3.37E+00	2	1.68	0.84	0.70	8.0668E+00
3	POSE	4.50	2.25E-01	6.31E+00	11	1.85	0.17	0.41	8.8831E+00
3	STCO	28.00	1.40E+00	3.93E+01	13	15.20	1.17	0.54	7.2986E+01
	PER FORBS	1.80	0.09		5	1.03	0.21	0.57	4.95
2	SPCO	1.80	9.00E-02	2.52E+00	5				
	ANN GRASS	3.00	0.15		14	3.20	0.23	1.07	15.37
5	BRTE	2.30	1.15E-01	3.23E+00	14				
5	VUOC	0.70	3.50E-02	9.82E-01	5				
	ANN FORBS	3.80	0.19		19	4.14	0.22	1.09	19.88
4	GIIN	3.30	1.65E-01	4.63E+00	19				
4	LEDE	0.10	T	1.40E-01	1				
4	PLPA	0.40	2.00E-02	5.61E-01	4				
	TOTAL		4.97	100.00		6.5790E+01			3.1570E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	65.4
CHVI	.85
EULA	.086
OPPO	.07
Shrub production	66.41
Total	382.31

PRECIPITATION DATA

RAIN GAUGE NO. LOWER GOVT DRAW JULY 28/77

OCT. 15 TO APR. 15 = 2.55

APR. 15 TO JULY 1 = 1.50

JULY 1 TO SEPT. 1 = 2.46

SEPT. 1 TO OCT. 15 = .40

SEASON TOTAL = 6.91

LONG TERM AVERAGE = 10.60

Utilization	Percent of Total Production
AGSM	45%
KOCR	63%
POSE	13%
STCO	24%

1004 MCGRAW FLATS EXCL AUGUST 03/77 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*ARHD	4.00	2.00E-01	2.32E+00	1				
1	*PHHD	46.10	2.30E+00	2.68E+01	12				
6	*ARTR	323.00	1.61E+01		14				
6	*CHVI	7.00	3.50E-01		1				
	PER GRASS	113.30	5.66		20	36.39	1.82	0.32	174.73
3	AGSM	21.00	1.05E+00	1.22E+01	20	14.40	0.72	0.69	6.9144E+01
3	POFE	92.10	4.60E+00	5.35E+01	15	21.98	1.47	0.24	1.0554E+02
3	POSE	0.20	T	1.16E-01	1	0.01	0.01	0.05	4.8017E-02
	PER FORBS	7.80	0.39		12	5.35	0.45	0.69	25.69
2	ASPU	1.00	5.00E-02	5.81E-01	1				
2	CYMD	3.40	1.70E-01	1.97E+00	5				
2	ERPU	0.20	T	1.16E-01	1				
2	MACA	0.40	2.00E-02	2.32E-01	1				
2	SPCO	0.80	4.00E-02	4.65E-01	2				
2	TRI	0.20	1.00E-02	1.16E-01	2				
2	VIAM	1.80	9.00E-02	1.05E+00	12				
	ANN FORBS	1.00	0.05		4	1.09	0.27	1.09	5.23
4	CORA	1.00	5.00E-02	5.81E-01	4				
	TOTAL	25.11		100.00		4.2830E+01			2.0566E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	189.8
CHVI	2.66
PHHD	152.7
Shrub production	244.36
Total	<u>550.02</u>

PRECIPITATION DATA

RAIN GAUGE NO.	MCGRAW FLATS EXCL	AUGUST 03/77
OCT. 15 TO APR. 15	=	2.40
APR. 15 TO JULY 1	=	1.00
JULY 1 TO SEPT. 1	=	1.95
SEPT. 1 TO OCT. 15	=	.32
SEASON TOTAL	=	5.67
LONG TERM AVERAGE	=	9.58

No Utilization

1004 MCGRAW FLATS EXCL AUGUST 03/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1x1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER-	PERCENT CENT	ABS. COMPO- SITION	TOTAL WGT.	AVE. WGT.	WGT./ UNIT	LBS BASAL PER AC.
		BASAL AREA PER- CENT	BASAL AREA		FREQ. BASE 20	GMS/20 SQ.FT.	/PLOT OCCUR- RENCES	BASAL AREA	
1	*PHHO	15.00	7.50E-01	1.40E+01	6				
6	*ARTR	236.50	1.43E+01		17				
6	*OPPO	2.00	1.00E-01		1				
	PER GRASS	84.60	4.23		20	31.78	1.59	0.38	152.60
3	AGSM	16.10	8.05E-01	1.50E+01	20	12.52	0.63	0.78	6.0117E+01
3	POFE	66.10	3.30E+00	6.17E+01	20	18.61	0.93	0.28	8.9360E+01
3	POSE	1.20	6.00E-02	1.12E+00	3	0.31	0.10	0.26	1.4885E+00
3	STCO	1.20	6.00E-02	1.12E+00	2	0.34	0.17	0.28	1.6326E+00
	PER FORBS	4.90	0.24		18	2.97	0.16	0.61	14.26
2	AGGL	0.10		9.34E-02	1				
2	CYMO	0.90	4.50E-02	8.40E-01	3				
2	VIAM	3.90	1.95E-01	3.64E+00	18				
	ANN FORBS	2.60	0.13		10	2.75	0.27	1.06	13.20
4	CORA	2.60	1.30E-01	2.43E+00	10				
	TOTAL		19.78	100.00		3.7500E+01			1.8006E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	235.3
CHVI	9.2
LEPU	5.7
PHHO	173.7
Shrub production	423.90
Total	<u>603.96</u>

PRECIPITATION DATA

RAIN GAUGE NO.	MCGRAW FLATS EXCL	AUGUST 03/77
OCT. 15 TO APR. 15 =	2.40	
APR. 15 TO JULY 1 =	1.00	
JULY 1 TO SEPT. 1 =	1.95	
SEPT. 1 TO OCT. 15 =	.32	
SEASON TOTAL =	5.67	
LONG TERM AVERAGE =	9.58	

Utilization
POFEPercent of Total Production
34%

0920 MEDICI LODGE EXCL JULY 26/77 INSIDE SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	30.20	4.01E+00		4				
6	*JUSC	107.00	5.35E+00		3				
	PER GRASS	12.90	0.64		6	4.65	0.77	0.36	22.33
3	AGSP	1.60	8.00E-02	4.83E+00	2	0.82	0.41	0.51	3.9374E+00
3	FEID	7.00	3.50E-01	2.11E+01	3	2.85	0.95	0.41	1.3685E+01
3	KOCK	1.40	7.00E-02	4.23E+00	3	0.28	0.09	0.20	1.3445E+00
3	POSE	2.70	1.35E-01	8.16E+00	6	0.66	0.11	0.24	3.1691E+00
3	STCO	0.20	T	6.04E-01	1	0.04	0.04	0.20	1.9207E-01
	PER FORRS	1.10	0.05		2	0.99	0.49	0.90	4.75
2	UNK1	1.10	5.50E-02	3.32E+00	2				
	ANN GRASS	13.90	0.69		19	12.99	0.68	0.93	62.37
5	BRTS	13.80	6.90E-01	4.17E+01	19				
5	VUOC	0.10	T	3.02E-01	1				
	ANN FORRS	5.20	0.26		17	4.65	0.27	0.89	22.33
4	PLPA	0.20	T	6.04E-01	1				
4	LEDE	5.00	2.50E-01	1.51E+01	17				
	TOTAL		11.01	100.00		2.3280E+01			1.1178E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

No Shrub data collected

PRECIPITATION DATA

RAIN GAUGE NO.	MEDICI LODGE EXCL	JULY 26/77
OCT. 15 TO APR. 15	=	4.94
APR. 15 TO JULY 1	=	3.36
JULY 1 TO SEPT. 1	=	2.06
SEPT. 1 TO OCT. 15	=	1.13
SEASON TOTAL	=	11.49
LONG TERM AVERAGE	=	13.90

No Utilization

0920 MEDICI LODGE EXCL JULY 26/77 OUTSID NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT./ GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARND	2.40	1.20E-01		2				
6	*ARTR	57.10	2.85E+00		6				
6	*JUSC	150.00	7.50E+00		2				
6	*XASA	3.70	1.85E-01		2				
	PER GRASS	11.40	0.57		3	3.85	0.43	0.34	18.49
3	AGSP	0.20	T	1.03E+00	1	0.05	0.05	0.25	2.4008E-01
3	FEID	3.70	1.85E-01	1.90E+01	7	1.05	0.15	0.28	5.0418E+00
3	KOCR	3.20	1.60E-01	1.64E+01	8	1.49	0.19	0.47	7.1545E+00
3	POSE	1.90	9.50E-02	9.74E+00	4	0.40	0.10	0.21	1.9207E+00
3	STCD	2.40	1.20E-01	1.23E+01	5	0.86	0.17	0.36	4.1295E+00
	PER FORBS	0.60	0.03		1	0.29	0.29	0.48	1.39
2	CHDC	0.40	2.00E-02	2.05E+00	1				
2	SED	0.20	T	1.03E+00	1				
	ANN GRASS	0.30	0.01		2	0.23	0.11	0.77	1.10
5	HRTE	0.10	T	5.13E-01	1				
5	VUOC	0.20	1.00E-02	1.03E+00	2				
	ANN FORBS	7.20	0.36		17	3.90	0.23	0.54	18.73
4	LEDE	7.10	3.55E-01	3.64E+01	17				
4	PDAV	0.10	T	5.13E-01	1				
	TOTAL	11.63	100.00			8.2700E+00			3.9710E+01

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

No Shrub Data Collected

PRECIPITATION DATA

	MEDICI LODGE EXCL JULY 26/77
RAIN GAUGE NO.	
OCT. 15 TO APR. 15 =	4.94
APR. 15 TO JULY 1 =	3.36
JULY 1 TO SEPT. 1 =	2.06
SEPT. 1 TO OCT. 15 =	1.13
SEASON TOTAL =	11.49
LONG TERM AVERAGE =	13.90

Utilization	Percent of Total Production
FEID	13%
KOCR	3%
POSE	11%

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER-	PERCENT COMPO-	ABS. PLOT	TOTAL WGT.	AVE. WGT./	WGT./ UNIT	LBS BASAL	PER AC.
		AREA	BASAL CENT	SITION	FREQ.	GMS/20 SQ.FT.	/PLNT OCCUR-	AREA		
		PER- CENT	AREA		20		RENCES			
1	*PHHO	13.00	6.50E-01	1.86E+01	7					
6	*ARTR	259.00	1.29E+01		17					
6	*CELA	1.50	7.50E-02		1					
6	*CHVI	3.00	1.50E-01		1					
	PER GRASS	56.80	2.84		18	16.91	0.94	0.30	81.20	
3	AGSM	19.90	9.95E-01	2.84E+01	18	9.03	0.50	0.45	4.3359E+01	
3	CAEL	0.80	4.00E-02	1.14E+00	5	0.26	0.05	0.32	1.2484E+00	
3	POSE	32.70	1.63E+00	4.67E+01	16	6.84	0.43	0.21	3.2844E+01	
3	SIHY	2.40	1.20E-01	3.43E+00	2	0.70	0.35	0.29	3.3612E+00	
3	STCO	1.00	5.00E-02	1.43E+00	2	0.08	0.04	0.08	3.8414E-01	
	PER FORBS	0.20	0.01		1	0.19	0.19	0.95	0.91	
2	MACA	0.20	T	2.86E-01	1					
	TOTAL		16.67	100.00		1.7100E+01			8.2109E+01	

* NCT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	204.4
CELA	.39
CHVI	3.84
ERCA	.85
OPPO	.08
PHHO	11.4
	220.96
	303.07

Shrub production

Total

PRECIPITATION DATA

RAIN GUAGE NO.	MESA	ANTELO EXCL	AUGUST 09/77
OCT. 15 TO APR. 15 =	1.39		
APR. 15 TO JULY 1 =	1.53		
JULY 1 TO SEPT. 1 =	4.56		
SEPT. 1 TO OCT. 15 =	.76		
SEASON TOTAL	8.24		
LONG TERM AVERAGE =	7.94		

No Utilization

2301 ME5A ANTELO EXCL AUGUST 09/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	11.80	5.90E-01	1.46E+01	7				
6	*ARTR	223.50	1.12E+01		14				
6	*CELA	4.50	2.25E-01		2				
6	*CHVI	9.70	4.85E-01		6				
	PER GRASS	68.70	3.43		20	24.97	1.25	0.36	119.90
3	AGSM	46.00	2.30E+00	5.69E+01	20	15.76	0.79	0.34	7.5675E+01
3	CAEL	5.40	2.70E-01	6.67E+00	6	4.08	0.68	0.76	1.9591E+01
3	POSE	11.70	5.85E-01	1.45E+01	13	2.25	0.17	0.19	1.0804E+01
3	SIHY	4.50	2.25E-01	5.56E+00	4	2.49	0.62	0.55	1.1956E+01
3	STCO	1.10	5.50E-02	1.36E+00	2	0.39	0.19	0.35	1.8727E+00
	PER FORBS	0.40	0.02		2	0.02	0.01	0.05	0.10
2	MACA	0.20	1.00E-02	2.47E-01	2				
2	ARHO2	0.20	T	2.47E-01	1				
	TOTAL		15.93	100.00		2.4990E+01			1.1999E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARHO	.75
ARTR	162.5
CELA	.77
CHVI	6.13
EROV	.43
PHHO	35.90

PRECIPITATION DATA

RAIN GAUGE NO.	ME5A	ANTELO EXCL	AUGUST 09/77
OCT. 15 TO APR. 15 =	1.39		
APR. 15 TO JULY 1 =	1.53		
JULY 1 TO SEPT. 1 =	4.56		
SEPT. 1 TO OCT. 15 =	.76		
SEASON TOTAL =	8.24		
LONG TERM AVERAGE =	7.94		

Shrub production
Total

206.48
326.47

No Utilization

1503 NCRTH BUTTE RELIC JULY 26/77 INSIDE RELIC

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT CCMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	3.00	1.50E-01	2.30E+00	1				
6	*ARTR	35.00	1.75E+00		2				
	PER GRASS	125.70	6.28		19	137.31	7.23	1.09	659.32
3	AGSP	43.50	2.17E+00	3.34E+01	14	62.18	4.44	1.43	2.9857E+02
3	BOGR	2.50	1.25E-01	1.92E+00	3	0.79	0.26	0.32	3.7933E+00
3	CAFI	32.50	1.62E+00	2.50E+01	19	17.14	0.90	0.53	8.2301E+01
3	POSE	0.90	4.50E-02	6.91E-01	3	0.10	0.03	0.11	4.8017E-01
3	STCO	46.30	2.31E+00	3.56E+01	15	57.10	3.81	1.23	2.7418E+02
	PER FORBS	1.20	0.06		6	0.48	0.08	0.40	2.30
2	ERPU	0.30	1.50E-02	2.30E-01	1				
2	SPCO	0.90	4.50E-02	6.91E-01	6				
	ANN FORBS	0.30	0.01		1	0.12	0.12	0.40	0.58
4	DEPI	0.20	T	1.54E-01	1				
4	UNKI	0.10	T	7.68E-02	1				
	TOTAL		8.26	100.00		1.3791E+02			6.6220E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	31.28
OPPO	2.58
PHHO	.93
Shrub production	34.79
Total	<u>696.99</u>

PRECIPITATION DATA

RAIN GUAGE NO.	NCRTH BUTTE RELIC JULY 26/77
OCT. 15 TO APR. 15 =	2.27
APR. 15 TO JULY 1 =	2.80
JULY 1 TO SEPT. 1 =	1.66
SEPT. 1 TO OCT. 15 =	.50
SEASON TOTAL =	7.23
LONG TERM AVERAGE =	10.48

No Utilization

1504 ROUND TOP EXCL JULY 26/77 INSIDE RELIC

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT HASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SC.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	37.00	1.85E+00		3				
	PER GRASS	109.70	5.48		16	84.25	5.27	0.77	404.54
3	AGSP	69.10	3.45E+00	6.08E+01	16	60.86	3.80	0.88	2.9223E+02
3	CAFI	28.40	1.42E+00	2.50E+01	14	15.97	1.14	0.56	7.6683E+01
3	KOCR	1.10	5.50E-02	9.68E-01	2	1.19	0.59	1.08	5.7140E+00
3	POSE	5.90	2.95E-01	5.19E+00	11	2.78	0.25	0.47	1.3349E+01
3	STCO	5.20	2.60E-01	4.58E+00	3	3.45	1.15	0.66	1.6566E+01
	PER FORBS	3.50	0.17		2	6.45	3.47	1.99	33.37
2	ALTE	0.10	T	8.80E-02	1				
2	CRE	0.90	4.50E-02	7.92E-01	2				
2	MUDI	2.50	1.25E-01	2.20E+00	1				
	ANN GRASS	0.20	0.01		2	0.02	0.01	0.10	0.10
5	HRTE	0.20	1.00E-02	1.76E-01	2				
	ANN FORBS	0.20	0.01		2	0.18	0.09	0.90	0.36
4	DEPI	0.20	1.00E-02	1.76E-01	2				
	TOTAL		7.53	100.00		9.1400E+01			4.3887E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T = TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARFR

ARTR

XASA

0.37

69.92

8.11

Shrub production

78.40

Total

517.27

PRECIPITATION DATA

RAIN GAUGE NO.

ROUND TOP

EXCL JULY 26/77

OCT. 15 TO APR. 15 = E2.15

APR. 15 TO JULY 1 = 2.84

JULY 1 TO SEPT. 1 = 1.76

SEPT. 1 TO OCT. 15 = .57

SEASON TOTAL = E7.32

LONG TERM AVERAGE = 11.25

E = Estimated

No Utilization

452
 15 59 NOV 15 RUNQ5NA...
 1505 SAND GULCH EXCL JULY 14/77 INSIDE NATIVE

NUMBER OF PLOTS
 COVER = 200, PRODUCTION = 20
 PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT. GMS/ BASE 200 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	ATGA	1423.0	7.11E+00	7.87E+01	85	332.07	3.91	0.23	1.5945E+02
6	*OPPO	31.1	1.55E-01		11				
	PER GRASS	294.8	1.47E+00		143	416.04	2.91	1.41	1.9977E+02
3	AGCR	76.8	3.84E-01	4.25E+00	11	101.69	9.24	1.32	4.8828E+01
3	AGSM	144.4	7.22E-01	7.99E+00	143	250.84	1.75	1.74	1.2045E+02
3	AGSP	4.1	2.05E-02	2.27E-01	4	8.62	2.15	2.10	4.1391E+00
3	POSE	25.6	1.28E-01	1.42E+00	26	29.70	1.14	1.16	1.4261E+01
3	SIHY	43.9	2.15E-01	2.43E+00	15	25.19	1.68	0.57	1.2095E+01
	PER FORBS	0.20	0.00		1	0.03	0.03	0.15	0.01
2	SPCO	0.2	T	1.11E-02	1				
	ANN GRASS	26.20	0.43		156	112.30	0.72	1.30	53.92
5	BRIE	26.2	4.31E-01	4.77E+00	156				
	ANN FORBS	2.80	0.01		12	1.90	0.16	0.68	0.91
4	DEPI	0.2	T	1.11E-02	2				
4	LEDE	0.2	T	1.11E-02	2				
4	LEPC	2.4	1.20E-02	1.33E-01	12				
	TOTAL		9.2	100.00		3.62340E+02			4.14069E+02

* NOT COMPUTED IN PERCENT COMPOSITION
 T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO

Shrub production	26.5
	26.5
Total	440.57

PRECIPITATION DATA

RAIN QUAGE NO.	SAND	GULCH	EXCL	JULY	14/77
OCT. 15 TO APR. 15	=	2.16			
APR. 15 TO JULY 1	=	2.45			
JULY 1 TO SEPT. 1	=	1.54			
SEPT. 1 TO OCT. 15	=	.86			
SEASON TOTAL	=	7.01			
LONG TERM AVERAGE	=	8.77			

No utilization

NUMBER OF PLOTS

COVER = 200, PRODUCTION = 20

PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER-	PERCENT CCMPO-	ABS. PLOT	TOTAL WGT.	AVE. WGT.	WGT./ UNIT	LBS BASAL PER
		BASAL AREA	CENT BASAL AREA	SITION	FREQ.	GMS/ BASE 200	/PLOT OCCUR- RENCE		AC.
1	ATGA	608.0	3.04E+00	5.59E+01	112	236.05	2.11	0.39	1.1334E+02
1	*PHHO	1.0	T	9.20E-02	1				
6	*OPPO	117.0	5.85E-01		11				
	PER GRASS	332.4	1.91E+00		36	200.54	2.33	0.52	9.6293E+01
3	AGSM	80.8	4.04E-01	7.43E+00	86	88.12	1.02	1.09	4.2313E+01
3	BUCR	238.8	1.19E+00	2.20E+01	38	69.20	1.82	0.29	3.3228E+01
3	ORNY	8.1	4.05E-02	7.45E-01	11	6.85	0.62	0.85	3.2892E+00
3	POSE	49.1	2.45E-01	4.52E+00	75	29.85	0.40	0.61	1.4333E+01
3	SINY	5.6	2.8CE-02	5.15E-01	9	6.52	0.72	1.16	3.1307E+00
	PER FORBS	0.40	0.30		2	0.10	0.05	0.25	0.05
2	ERPU	0.2	T	1.84E-02	1				
2	SPCO	0.2	T	1.84E-02	2				
	ANN GRASS	83.50	0.42		145	75.38	0.52	0.90	36.20
5	BKTE	83.5	4.17E-01	7.68E+00	145				
	ANN FORBS	11.79	0.66		47	11.25	0.24	0.96	5.40
4	LARE	1.3	T	1.20E-01	12				
4	LEDE	0.1	T	T	1				
4	LEPE	10.3	5.15E-02	9.48E-01	47				
	TOTAL		6.0	100.00		5.23320E+02			2.51282E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO

Shrub production

4.0

4.0

Total

255.28

PRECIPITATION DATA

RAIN GAUGE NO.

SAND

GULCH

EXCL

JULY 14/77

OCT. 15 TO APR. 15 = 2.16

APR. 15 TO JULY 1 = 2.45

JULY 1 TO SEPT. 1 = 1.54

SEPT. 1 TO OCT. 15 = .86

SEASON TOTAL = 7.01

LONG TERM AVERAGE = 8.77

No utilization

1009 SHOSHO ANT NO EXCL 2 AUGUST 02/77 INSIDE NATIVE

NUMBER PLOTS = 20											
PLOT SIZE 1X1											
PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCE'S	WGT./ UNIT BASAL AREA	LBS PER AC.		
6	*ARTR	247.00	1.23E+01		11						
6	*OPPO	11.00	5.50E-01		1						
PER GRASS		92.80	4.64		13	34.20	2.63	0.37	164.22		
3	ACSM	0.30	1.50E-02	3.21E-01	2	0.52	0.26	1.73	2.4969E+00		
3	BOGR	85.30	4.26E+00	9.13E+01	13	29.49	2.27	0.35	1.4160E+02		
3	DRHY	0.50	2.50E-02	5.35E-01	1	0.23	0.23	0.46	1.1044E+00		
3	POSE	5.90	2.95E-01	6.32E+00	8	2.46	0.31	0.42	1.1812E+01		
3	SIHY	0.10	T	1.07E-01	1	0.17	0.17	1.70	8.1629E-01		
3	STCO	0.70	3.50E-02	7.49E-01	2	1.33	0.66	1.90	6.3863E+00		
PER FORBS		0.20	0.01		1	0.00	0.00	0.00	0.00		
2	SPCO	0.20	T	2.14E-01	1						
ANN FORBS		0.40	0.02		3	0.16	0.05	0.40	0.77		
4	LEDE	0.10	T	1.07E-01	1						
4	PLPA	0.30	1.50E-02	3.21E-01	3						
TOTAL			17.57	100.00		3.4360E+01			1.6499E+02		

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO
PHHO

210
8.24
3.26
221.50
386.49

Shrub production
Total

PRECIPITATION DATA

RAIN GAUGE NO. SHOSHO ANT NO EXCL 2 AUGUST 02/77
OCT. 15 TO APR. 15 = 2.91
APR. 15 TO JULY 1 = 1.68
JULY 1 TO SEPT. 1 = .80
SEPT. 1 TO OCT. 15 = .42
SEASON TOTAL = 5.81
LONG TERM AVERAGE = 8.33

No Utilization

1009 SHCSHO ANT SO EXCL 2 AUGUST 02/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1x1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	276.00	1.38E+01		11				
6	*OPPO	19.00	9.50E-01		3				
	PER GRASS	46.90	2.34		13	21.32	1.64	0.45	102.37
3	AGSM	3.20	1.60E-01	6.78E+00	7	4.13	0.59	1.29	1.9831E+01
3	BOGR	37.50	1.87E+00	7.94E+01	13	12.38	0.95	0.33	5.9445E+01
3	POSE	1.80	9.00E-02	3.81E+00	2	1.30	0.65	0.72	6.2422E+00
3	STCO	4.40	2.20E-01	9.32E+00	3	3.51	1.17	0.80	1.6854E+01
	PER FORBS	0.10	0.00		1	0.03	0.03	0.30	0.14
2	SPCO	0.10	T	2.12E-01	1				
	ANN GRASS	0.10	0.00		1	0.04	0.04	0.40	0.19
5	VUOC	0.10	T	2.12E-01	1				
	ANN FORBS	0.10	0.00		1	0.01	0.01	0.10	0.05
4	PLPA	0.10	T	2.12E-01	1				
	TOTAL		17.11	100.00		2.1400E+01			1.0276E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO
PHHO

210
8.24
3.26
221.50
324.26

Shrub production
Total

PRECIPITATION DATA

RAIN GAUGE NO.	SHCSHO ANT SO EXCL 2 AUGUST 02/77
OCT. 15 TO APR. 15 =	2.91
APR. 15 TO JULY 1 =	1.68
JULY 1 TO SEPT. 1 =	.80
SEPT. 1 TO OCT. 15 =	.42
SEASON TOTAL	5.81
LONG TERM AVERAGE =	8.33

No Utilization

1009 SHOSHO ANT EXCL 2 AUGUST 02/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT CCMPO- SITION	ABS. PLOT FREQ. BASE 20				
6	*ARTR	275.70	1.38E+01		14				
6	*OPPO	36.00	1.80E+00		5				
	PER GRASS	42.50	2.12		13	20.79	1.60	0.49	99.83
3	AGSM	7.50	3.75E-01	1.70E+01	13	5.54	0.43	0.74	2.6601E+01
3	BOGR	22.10	1.10E+00	5.02E+01	11	8.57	0.78	0.39	4.1151E+01
3	POSE	11.70	5.85E-01	2.66E+01	10	4.53	0.45	0.39	2.1752E+01
3	SIHY	1.00	5.00E-02	2.27E+00	1	0.97	0.97	0.97	4.6576E+00
3	STCO	0.20	T	4.55E-01	1	1.18	1.18	5.90	5.6660E+00
	PER FORBS	0.30	0.01		3	0.03	0.01	0.10	0.14
2	SPCO	0.30	1.50E-02	6.82E-01	3				
	ANN GRASS	0.30	0.01		1	0.06	0.06	0.20	0.29
5	VUOC	0.30	1.50E-02	6.82E-01	1				
	ANN FORBS	0.90	0.04		6	0.27	0.04	0.30	1.30
4	PLPA	0.80	4.00E-02	1.82E+00	6				
4	LEDE	0.10	T	2.27E-01	1				
	TOTAL	17.78		100.00		2.1150E+01			1.0156E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO
PHHO214.3
12.6
2.07Shrub production
Total228.53
330.09

PRECIPITATION DATA

RAIN GAUGE NO.

SHOSHO ANT

EXCL 2 AUGUST 02/77

OCT. 15 TO APR. 15 =	2.91
APR. 15 TO JULY 1 =	1.68
JULY 1 TO SEPT. 1 =	.80
SEPT. 1 TO OCT. 15 =	.42
SEASON TOTAL =	5.81
LONG TERM AVERAGE =	8.33

No Utilization

1011 SHCSHO ANT NO EXCL 4 AUGUST 02/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1			TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO-	PLOT FREQ.	ABS. BASE 20				
1	*PIHC	1.40	7.00E-02	7.07E+00	3					
6	*ARTR	205.50	1.03E+01		12					
6	*OPPO	25.00	1.25E+00		6					
	PER GRASS	16.80	0.84		16	12.06	0.75	0.72	57.91	
3	AGSM	5.20	2.60E-01	2.63E+01	16	3.13	0.20	0.60	1.5029E+01	
3	BQGR	7.60	3.80E-01	3.84E+01	4	3.16	0.79	0.42	1.5173E+01	
3	POSE	2.50	1.25E-01	1.26E+01	7	4.82	0.69	1.93	2.3144E+01	
3	STCO	1.50	7.50E-02	7.58E+00	1	0.95	0.95	0.63	4.5616E+00	
	PER FORBS	1.50	0.07		6	0.31	0.05	0.21	1.49	
2	SPCO	1.50	7.50E-02	7.58E+00	6					
	ANN FORBS	0.10	0.00		1	0.01	0.01	0.10	0.05	
4	PLPA	0.10	T	5.05E-01	1					
	TOTAL		12.51	100.00		1.2380E+01			5.9445E+01	

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR

OPPO

103.0

17.48

Shrub production

120.48

Total

179.92

PRECIPITATION DATA

RAIN GAUGE NO.

SHCSHO ANT NO EXCL 4 AUGUST 02/77

OCT. 15 TO APR. 15 = 2.54

APR. 15 TO JULY 1 = 1.52

JULY 1 TO SEPT. 1 = .92

SEPT. 1 TO OCT. 15 = .44

SEASON TOTAL = 5.42

LONG TERM AVERAGE = 7.94

No Utilization

1011 SHOSHO ANT SO EXCL 4 AUGUST 01/77 INSIDE NATIVE

NUMMER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER-	PERCENT CENT	COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT.	AVE. WGT.	WGT./ UNIT	LBS BASAL PER
		BASAL AREA	BASAL PER- CENT			BASE 20	GMS/20 SQ.FT.	/PLOT OCCUR- RENCES		AC.
1	*PHHO	0.30	1.50E-02	4.17E-01	1					
6	*ARTR	32.10	1.60E+00		12					
6	*OPPO	24.00	1.20E+00		4					
	PER GRASS	68.70	3.43		9		3.19	0.35	0.05	15.32
3	AGSM	0.20	1.00E-02	2.78E-01	2		0.12	0.06	0.60	5.7620E-01
3	BNGR	57.80	2.89E+00	8.04E+01	9		1.78	0.20	0.03	8.5470E+00
3	POSE	3.90	1.95E-01	5.42E+00	4		1.29	0.32	0.33	6.1942E+00
3	STCO	6.80	3.40E-01	9.46E+00	4		0.00	0.00	0.00	0.0000
	PER FORBS	2.30	0.11		5		0.42	0.08	0.18	2.02
2	SPCO	2.30	1.15E-01	3.20E+00	5					
	ANN GRASS	0.10	0.00		1		0.01	0.01	0.10	0.05
5	VUOC	0.10	T	1.39E-01	1					
	ANN FORBS	0.50	0.02		5		0.09	0.02	0.18	0.43
4	PLPA	0.50	2.50E-02	6.95E-01	5					
	TOTAL		6.40	100.00			3.7100E+00			1.7814E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO

	103.0
	17.48
Shrub production	120.48
Total	138.29

PRECIPITATION DATA

RAIN GAUGE NO. SHOSHO ANT SO EXCL 4 AUGUST 01/77

OCT. 15 TO APR. 15 =	2.54
APR. 15 TO JULY 1 =	1.52
JULY 1 TO SEPT. 1 =	.92
SEPT. 1 TO OCT. 15 =	.44
SEASON TOTAL =	5.42
LONG TERM AVERAGE =	7.94

No Utilization

1011 SFGSHO ANT EXCL 4 AUGUST 02/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PERCENT BASAL AREA	PERCENT COMPO-SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	64.50	3.22E+00		7				
6	*OPPO	46.00	2.30E+00		10				
	PER GRASS	103.60	5.18		13	31.00	2.38	0.30	148.85
3	AGSM	5.30	2.65E-01	4.96E+00	5	2.25	0.45	0.42	1.0804E+01
3	BOGR	80.70	4.03E+00	7.56E+01	10	15.33	1.53	0.19	7.3610E+01
3	POSE	9.90	4.95E-01	9.27E+00	13	5.04	0.39	0.51	2.4201E+01
3	SIHY	3.70	1.85E-01	3.46E+00	4	5.08	1.27	1.37	2.4393E+01
3	STCO	4.00	2.00E-01	3.75E+00	7	3.30	0.47	0.82	1.5846E+01
	PER FORBS	1.80	0.09		6	0.76	0.13	0.42	3.65
2	SPCO	1.80	9.00E-02	1.69E+00	6				
	ANN GRASS	0.60	0.03		6	0.39	0.06	0.65	1.87
5	VUOC	0.60	3.00E-02	5.62E-01	6				
	ANN FORBS	0.80	0.04		6	0.21	0.03	0.26	1.01
4	LEDE	0.10	T	9.36E-02	1				
4	PLPA	0.70	3.50E-02	6.55E-01	6				
	TOTAL		10.86	100.00		3.2360E+01			1.5538E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO

	130.1
	24.3
Shrub production	154.4
Total	<u>309.78</u>

PRECIPITATION DATA

RAIN GUAGE NO.

SFGSHO ANT

EXCL 4 AUGUST 02/77

OCT. 15 TO APR. 15	=	2.54
APR. 15 TO JULY 1	=	1.52
JULY 1 TO SEPT. 1	=	.92
SEPT. 1 TO OCT. 15	=	.44
SEASON TOTAL	=	5.42
LONG TERM AVERAGE	=	7.94

No Utilization

		NUMBER PLOTS = 20							
		PLOT SIZE 1x1							
PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- BASAL	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	2.00	1.00E-01	3.48E+00	1				
6	*ARTR	134.80	6.74E+00		10				
6	*OPPO	25.00	1.25E+00		6				
	PER GRASS	54.10	2.70		16	18.75	1.17	0.35	90.03
3	AGSM	8.70	4.35E-01	1.51E+01	16	6.09	0.38	0.70	2.9242E+01
3	BOGR	23.40	1.17E+00	4.07E+01	6	5.14	0.86	0.22	2.4681E+01
3	POSE	13.70	6.85E-01	2.38E+01	13	5.22	0.40	0.38	2.5065E+01
3	STCO	8.30	4.15E-01	1.44E+01	6	2.30	0.38	0.28	1.1044E+01
	PER FORBS	1.10	0.05		2	0.34	0.17	0.31	1.63
2	ERPU	0.70	3.50E-02	1.22E+00	1				
2	SPCO	0.40	2.00E-02	6.96E-01	2				
	ANN FORBS	0.30	0.01		3	0.04	0.01	0.13	0.19
4	PLPA	0.30	1.50E-02	5.22E-01	3				
	TOTAL		10.86	100.00		1.9130E+01			9.1856E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	124.71
OPPO	13.96
PHHO	8.52
Shrub production	<u>147.19</u>
Total	<u>239.05</u>

PRECIPITATION DATA

RAIN GUAGE NO.	SHOSHO ANT NO EXCL 7 AUGUST 02/77
OCT. 15 TO APR. 15 =	2.55
APR. 15 TO JULY 1 =	1.60
JULY 1 TO SEPT. 1 =	.80
SEPT. 1 TO OCT. 15 =	.40
SEASON TOTAL =	5.35
LONG TERM AVERAGE =	8.37

No Utilization

1003 SHOSHO ANT SO EXCL 7 AUGUST 02/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT	COMPO- SITION					
6	*ARTR	120.50	6.02E+00			12				
6	*OPPO	23.00	1.15E+00			6				
	PER GRASS	51.60	2.58			16	17.80	1.11	0.34	85.47
3	AGSM	4.80	2.40E-01	9.21E+00		12	4.81	0.40	1.00	2.3096E+01
3	BOGR	21.40	1.07E+00	4.11E+01		7	6.52	0.93	0.30	3.1307E+01
3	POSE	25.40	1.27E+00	4.88E+01		16	6.47	0.40	0.25	3.1067E+01
	PER FORBS	0.20	0.01			1	0.11	0.11	0.55	0.53
2	SPCO	0.20	T	3.84E-01		1				
	ANN FORBS	0.30	0.01			1	0.06	0.06	0.20	0.29
4	LEDE	0.20	T	3.84E-01		1				
4	PLPA	0.10	T	1.92E-01		1				
	TOTAL		9.78	100.00			1.7970E+01			8.6286E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO
PHHO

124.71
13.96
8.52
147.19
233.47

Shrub production
Total

PRECIPITATION DATA

RAIN GAUGE NO. SHOSHO ANT SO EXCL 7 AUGUST 02/77

OCT. 15 TO APR. 15	=	2.55
APR. 15 TO JULY 1	=	1.60
JULY 1 TO SEPT. 1	=	.80
SEPT. 1 TO OCT. 15	=	.40
SEASON TOTAL	=	5.35
LONG TERM AVERAGE	=	8.37

No Utilization

1033 SHOSHO ANT EXCL 7 AUGUST 02/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT CCMPO- SITION	1X1 ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCFS	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	201.00	1.00E+01		14				
6	*OPPO	2.50	1.25E-01		2				
	PER GRASS	96.10	4.80		18	26.62	1.48	0.28	127.82
3	AGSM	7.90	3.95E-01	8.09E+00	16	5.55	0.35	0.70	2.6649E+01
3	BOGR	52.20	3.11E+00	6.37E+01	9	10.70	1.19	0.17	5.1378E+01
3	POSE	16.80	8.40E-01	1.72E+01	18	4.57	0.25	0.27	2.1944E+01
3	STCO	9.20	4.60E-01	9.43E+00	5	5.80	1.16	0.63	2.7850E+01
	PER FORBS	0.20	0.01		1	0.04	0.04	0.20	0.19
2	SPCO	0.20	T	2.05E-01	1				
	ANN GRASS	0.20	0.01		2	0.02	0.01	0.10	0.10
5	BRTE	0.20	1.00E-02	2.05E-01	2				
	ANN FORBS	1.10	0.05		10	0.17	0.02	0.15	0.32
4	PLPA	1.10	5.50E-02	1.13E+00	10				
	TOTAL		15.95	100.00		2.6850E+01			1.2893E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	162.76
OPPO	19.63
PHHO	4.38
Shrub production	186.77
Total	<u>315.70</u>

PRECIPITATION DATA

RAIN GAUGE NO.	SHOSHO ANT	EXCL 7 AUGUST 02/77
OCT. 15 TO APR. 15 =	2.55	
APR. 15 TO JULY 1 =	1.60	
JULY 1 TO SEPT. 1 =	.80	
SEPT. 1 TO OCT. 15 =	.40	
SEASON TOTAL =	5.35	
LONG TERM AVERAGE =	8.37	

No Utilization

1014 SHCSHO ANT NO EXCL 8 AUGUST 02/77 INSIDE NATIVE

NUMBER PLOTS = 20									
PLANT CODE	PLANT NAME	TOTAL TRANS BASAL PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
6	*ARTR	119.50	5.97E+00		11				
6	*OPPO	12.00	6.00E-01		3				
	PER GRASS	51.70	2.58		16	32.87	2.05	0.64	157.83
3	AGSM	6.20	3.10E-01	1.17E+01	15	8.58	0.57	1.38	4.1199E+01
3	BNGR	19.00	9.50E-01	3.58E+01	4	6.32	1.58	0.33	3.0347E+01
3	POSE	21.00	1.05E+00	3.96E+01	16	12.72	0.79	0.61	6.1078E+01
3	STCO	5.50	2.75E-01	1.04E+01	4	5.25	1.31	0.95	2.5209E+01
	PER FORBS	0.20	0.01		1	0.19	0.19	0.95	0.91
2	SPCO	0.20	T	3.77E-01	1				
	ANN FORBS	1.10	0.05		9	0.30	0.03	0.27	1.44
4	LEDE	0.10	T	1.89E-01	1				
4	PLPA	1.00	5.00E-02	1.89E+00	9				
	TOTAL		9.22	100.00		3.3360E+01			1.6018E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPOShrub production
Total

176.69
39.30
<u>215.99</u>
<u>376.17</u>

PRECIPITATION DATA

RAIN GAUGE NO.

SHCSHO ANT NO EXCL 8 AUGUST 02/77

OCT. 15 TO APR. 15 =	2.61
APR. 15 TO JULY 1 =	1.36
JULY 1 TO SEPT. 1 =	.73
SEPT. 1 TO OCT. 15 =	.44
SEASON TOTAL =	5.14
LONG TERM AVERAGE =	7.99

No Utilization

1014 SHOSHQ ANT SQ EXCL 8 AUGUST 02/77 INSIDE NATIVE

NUMBER PLOTS = 20 PLOT SIZE 1X1									
PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT CCMPD- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	120.00	6.00E+00		6				
	PER GRASS	78.20	3.91		18	52.33	2.91	0.67	251.27
3	AGSM	4.10	2.05E-01	5.19E+00	12	4.19	0.35	1.02	2.0119E+01
3	BOGK	25.50	1.27E+00	3.23E+01	7	8.17	1.17	0.32	3.9230E+01
3	POSE	21.10	1.05E+00	2.67E+01	18	11.80	0.66	0.56	5.6660E+01
3	STCO	27.50	1.37E+00	3.48E+01	12	28.17	2.35	1.02	1.3526E+02
	ANN FURBS	0.80	0.04		6	0.88	0.15	1.10	4.23
4	PLPA	0.80	4.00E-02	1.01E+00	6				
	TOTAL		9.95	100.00		5.3210E+01			2.5550E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPOShrub production
Total

176.69
39.30
<u>215.99</u>
<u>471.49</u>

PRECIPITATION DATA

RAIN GAUGE NO.	SHOSHQ ANT SQ EXCL 8 AUGUST 02/77
OCT. 15 TO APR. 15 =	2.61
APR. 15 TO JULY 1 =	1.36
JULY 1 TO SEPT. 1 =	.73
SEPT. 1 TO OCT. 15 =	.44
SEASON TOTAL =	5.14
LONG TERM AVERAGE =	7.99

No Utilization

1014 SHOSHO ANT EXCL 8 AUGUST 02/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	PLCT SIZE 1X1 ABS. PLOT FREQ.	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	0.40	2.00E-02	5.71E-01	1				
6	*ARTR	61.00	3.05E+00		6				
6	*OPPO	10.00	5.00E-01		4				
	PER GRASS	69.40	3.47		20	34.82	1.74	0.50	167.19
3	AGSM	11.10	5.55E-01	1.58E+01	20	9.36	0.47	0.84	4.4944E+01
3	BOGR	32.50	1.62E+00	4.64E+01	9	9.73	1.08	0.30	4.6720E+01
3	ORHY	2.00	1.00E-01	2.85E+00	1	3.41	3.41	1.70	1.6374E+01
3	POSE	12.50	6.25E-01	1.78E+01	14	5.22	0.37	0.42	2.5065E+01
3	STCO	11.30	5.65E-01	1.61E+01	7	7.10	1.01	0.63	3.4092E+01
	PER FORBS	0.10	0.00		1	0.05	0.05	0.50	0.24
2	SPCO	0.10	T	1.43E-01	1				
	ANN FORBS	0.20	0.01		2	0.08	0.04	0.40	0.38
4	PLPA	0.20	1.00E-02	2.85E-01	2				
	TOTAL		7.05	100.00		3.4950E+01			1.6782E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	150.16
OPPO	33.36
PHHO	1.70
Shrub production	<u>185.22</u>
Total	<u>353.04</u>

PRECIPITATION DATA

RAIN GAUGE NO.	SHOSHO ANT	EXCL 8 AUGUST 02/77
OCT. 15 TO APR. 15 =	2.61	
APR. 15 TO JULY 1 =	1.36	
JULY 1 TO SEPT. 1 =	.73	
SEPT. 1 TO OCT. 15 =	.44	
SEASON TOTAL =	5.14	
LONG TERM AVERAGE =	7.99	

No Utilization

1015 SHQSHO ANT NO EXCL 9 AUGUST 02/77 INSIDE NATIVE

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	NUMBER PLOTS = 20 PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT BASE 20				
6	*ARTR	67.00	3.35E+00		7				
6	*OPPC	17.00	8.50E-01		3				
	PER GRASS	27.30	1.36		18	14.50	0.81	0.53	69.62
3	AGSM	9.90	4.95E-01	3.52E+01	18	8.22	0.46	0.83	3.9470E+01
3	BQGR	11.50	5.75E-01	4.09E+01	5	4.07	0.81	0.35	1.9543E+01
3	POSE	4.90	2.45E-01	1.74E+01	9	1.79	0.20	0.37	8.5950E+00
3	STCO	1.00	5.00E-02	3.56E+00	2	0.42	0.21	0.42	2.0167E+00
	PER FORBS	0.50	0.02		1	0.23	0.23	0.46	1.10
2	ERPU	0.40	2.00E-02	1.42E+00	1				
2	SPCO	0.10	T	3.56E-01	1				
	ANN FORBS	0.30	0.01		3	0.03	0.01	0.10	0.14
4	PLPA	0.30	1.50E-02	1.07E+00	3				
	TOTAL		5.60	100.00		1.4760E+01			7.0873E+01

* - NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	131.01
OPPO	15.96
PHHO	10.49
Shrub production	157.46
Total	<u>228.33</u>

PRECIPITATION DATA

RAIN GAUGE NO.	SHQSHO ANT NO EXCL 9 AUGUST 02/77
OCT. 15 TO APR. 15 =	E2.60
APR. 15 TO JULY 1 =	1.52
JULY 1 TO SEPT. 1 =	.92
SEPT. 1 TO OCT. 15 =	.40
SEASON TOTAL =	E5.44
LONG TERM AVERAGE =	8.16

E = Estimated

No Utilization

1015 SHOSHO ANT SO EXCL 9 AUGUST 02/77 INSIDE NATIVE

NUMBER PLOTS = 20											
PLOT SIZE 1X1											
PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER-CENT	AVE. PER-CENT BASAL AREA	PERCENT COMPOSITION	ABS. PLOT FREQ.	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR-RENCES	WGT./UNIT BASAL AREA	LBS PER AC.		
1	*PHHO	0.50	2.50E-02	1.24E+00	1						
6	*ARTR	324.50	1.62E+01		15						
6	*OPPO	15.00	7.50E-01		3						
PER GRASS		39.60	1.98		15	18.45	1.23	0.47	88.59		
3	AGSM	13.80	6.90E-01	3.42E+01	15	5.38	0.36	0.39	2.5833E+01		
3	BOGR	16.20	8.10E-01	4.02E+01	6	6.40	1.07	0.40	3.0731E+01		
3	POSE	8.20	4.10E-01	2.03E+01	10	2.84	0.28	0.35	1.3637E+01		
3	STCO	1.40	7.00E-02	3.47E+00	3	3.83	1.28	2.74	1.8390E+01		
ANN FORBS		0.20	0.01		1	0.01	0.01	0.05	0.05		
4	LEDE	0.10	T	2.48E-01	1						
4	PLPA	0.10	T	2.48E-01	1						
TOTAL			18.99	100.00		1.8460E+01			8.8639E+01		

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	131.01
OPPO	15.96
PHHO	10.49
Shrub production	157.46
Total	<u>246.10</u>

PRECIPITATION DATA

RAIN GAUGE NO. SHOSHO ANT SO EXCL 9 AUGUST 02/77

OCT. 15 TO APR. 15	=	E2.60
APR. 15 TO JULY 1	=	1.52
JULY 1 TO SEPT. 1	=	.92
SEPT. 1 TO OCT. 15	=	.40
SEASON TOTAL	=	E5.44
LONG TERM AVERAGE	=	8.16

E = Estimated

No Utilization

1015 SHOSHO ANT EXCL 9 AUGUST 02/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	1.00	5.00E-02	1.43E+00	1				
6	*ARTR	150.00	7.50E+00		11				
6	*OPPO	25.00	1.25E+00		4				
	PER GRASS	67.80	3.39		17	21.96	1.29	0.32	105.45
3	AGSM	3.30	1.65E-01	4.72E+00	9	2.57	0.29	0.78	1.2340E+01
3	BGRS	43.30	2.16E+00	6.19E+01	7	10.29	1.47	0.24	4.9409E+01
3	POSE	17.20	8.60E-01	2.46E+01	17	6.57	0.39	0.38	3.1547E+01
3	STCO	4.00	2.00E-01	5.72E+00	2	2.53	1.26	0.63	1.2148E+01
	PER FORBS	0.50	0.02		1	0.07	0.07	0.14	0.34
2	ERPU	0.50	2.50E-02	7.15E-01	1				
	ANN FORBS	0.60	0.03		6	0.09	0.01	0.15	0.43
4	PLPA	0.60	3.00E-02	8.58E-01	6				
	TOTAL		12.24	100.00		2.2120E+01			1.0621E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	135.54
OPPO	12.79
PHHO	20.36
Shrub production	168.69
Total	<u>274.90</u>

PRECIPITATION DATA

RAIN GAUGE NO.	SHOSHO ANT	EXCL 9 AUGUST 02/77
OCT. 15 TO APR. 15 =	E2.60	
APR. 15 TO JULY 1 =	1.52	
JULY 1 TO SEPT. 1 =	.92	E = Estimated
SEPT. 1 TO OCT. 15 =	.40	
SEASON TOTAL =	E5.44	
LONG TERM AVERAGE =	8.16	

No Utilization

1017 SHOSHO ANT NO EXCL11 AUGUST 02/77 INSIDE NATIVE

NUMBER PLOTS = 20										
PLOT SIZE 1X1										
PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- BASAL	PERCENT COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT. GMS/20	AVE. WGT. /PLOT	WGT./ UNIT BASAL AREA	LBS PER AC.	
		AREA PER- CENT	BASAL AREA		BASE 20	SQ.FT.	OCCUR- RENCES			
6	*ARTR	167.00	8.35E+00		10					
6	*OPPO	5.00	2.50E-01		1					
	PER GRASS	74.90	4.74		16	20.55	1.28	0.22	98.67	
3	AGSM	8.40	4.20E-01	8.70E+00	16	6.55	0.41	0.78	3.1451E+01	
3	BOGR	75.60	3.78E+00	7.83E+01	10	9.86	0.99	0.13	4.7345E+01	
3	ORHY	3.00	1.50E-01	3.11E+00	1	1.92	1.92	0.64	9.2193E+00	
3	POSE	7.30	3.65E-01	7.56E+00	12	1.94	0.16	0.27	9.3153E+00	
3	STCO	0.60	3.00E-02	6.22E-01	1	0.28	0.28	0.47	1.3445E+00	
	PER FORBS	1.20	0.06		8	0.40	0.05	0.33	1.92	
2	SPCO	1.20	6.00E-02	1.24E+00	8					
	ANN FORBS	0.40	0.02		4	0.07	0.02	0.17	0.34	
4	PLPA	0.40	2.00E-02	4.15E-01	4					
	TOTAL		13.42	100.00		2.1020E+01			1.0093E+02	

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO

116.94

23.53

Shrub production
Total

140.47

241.40

PRECIPITATION DATA

RAIN GAUGE NO.	SHOSHO ANT NO EXCL11 AUGUST 02/77
OCT. 15 TO APR. 15 =	2.20
APR. 15 TO JULY 1 =	1.43
JULY 1 TO SEPT. 1 =	.92
SEPT. 1 TO OCT. 15 =	.42
SEASON TOTAL =	4.97
LONG TERM AVERAGE =	8.08

No Utilization

1017 SHOSHO ANT SO EXCL11 AUGUST 02/77 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1x1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	132.40	6.62E+00		12				
6	*OPPD	17.00	8.50E-01		3				
	PER GRASS	75.00	3.75		14	29.71	2.12	0.40	142.66
3	AGSM	4.00	2.00E-01	5.23E+00	11	9.81	0.89	2.45	4.7105E+01
3	ROGR	56.50	2.82E+00	7.39E+01	12	13.30	1.11	0.24	6.3863E+01
3	CRHY	2.00	1.00E-01	2.61E+00	1	1.25	1.25	0.62	6.0021E+00
3	POSE	11.30	5.65E-01	1.48E+01	14	4.30	0.31	0.38	2.0647E+01
3	SIHY	1.00	5.00E-02	1.31E+00	1	0.87	0.87	0.87	4.1775E+00
3	STCO	0.20	T	2.61E-01	1	0.18	0.18	0.90	8.6430E-01
	PER FORBS	0.60	0.03		4	0.32	0.08	0.53	1.54
2	SPCO	0.60	3.00E-02	7.84E-01	4				
	ANN GRASS	0.20	0.01		2	0.02	0.01	0.10	0.10
5	VUOC	0.20	1.00E-02	2.61E-01	2				
	ANN FORBS	0.70	0.03		7	0.10	0.01	0.14	0.48
4	PLPA	0.70	3.50E-02	9.15E-01	7				
	TOTAL		11.29	100.00		3.0150E+01			1.4477E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPOShrub production
Total

116.94
23.53
<u>140.47</u>
<u>285.24</u>

PRECIPITATION DATA

RAIN GAUGE NO. SHOSHO ANT SU EXCL11 AUGUST 02/77

OCT. 15 TO APR. 15 =	2.20
APR. 15 TO JULY 1 =	1.43
JULY 1 TO SEPT. 1 =	.92
SEPT. 1 TO OCT. 15 =	.42
SEASON TOTAL =	4.97
LONG TERM AVERAGE =	8.08

No Utilization

1017 SHOSHO ANT EXCL11 AUGUST 02/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	56.60	2.63E+00		9				
6	*OPPO	28.60	1.43E+00		7				
	PER GRASS	69.10	3.45		16	18.92	1.18	0.27	90.85
3	AGSM	6.00	3.00E-01	8.37E+00	16	3.60	0.22	0.60	1.7286E+01
3	BOGR	43.80	2.19E+00	6.11E+01	11	9.18	0.83	0.21	4.4080E+01
3	POSE	18.00	9.00E-01	2.51E+01	16	5.49	0.34	0.30	2.6361E+01
3	STCO	1.30	6.50E-02	1.81E+00	2	0.65	0.32	0.50	3.1211E+00
	PER FORBS	0.90	0.04		4	0.39	0.10	0.43	1.87
2	SPCO	0.90	4.50E-02	1.26E+00	4				
	ANN GRASS	0.10	0.00		1	0.01	0.01	0.10	0.05
5	VUOC	0.10	T	1.39E-01	1				
	ANN FORBS	1.60	0.08		14	0.59	0.04	0.37	2.83
4	PLPA	1.60	8.00E-02	2.23E+00	14				
	TOTAL		7.84	100.00		1.9910E+01			9.5602E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	174.02
OPPO	24.93
PHHO	0.07
Shrub production	<u>199.02</u>
Total	<u>394.62</u>

PRECIPITATION DATA

RAIN GAUGE NO.	SHOSHO ANT	EXCL11 AUGUST 02/77
OCT. 15 TO APR. 15 =	2.20	
APR. 15 TO JULY 1 =	1.43	
JULY 1 TO SEPT. 1 =	.92	
SEPT. 1 TO OCT. 15 =	.42	
SEASON TOTAL =	4.97	
LONG TERM AVERAGE =	8.08	

No Utilization

2009 SMILC EXCL

JULY 13/77 INSIDE NATIVE

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. SQ.FT.	AVE. WGT. GMS/20 /PLOT	WGT./ UNIT BASAL AREA	LRS PER AC.
6	*ARTR	259.00	1.29E+01		11				
6	*OPPO	5.10	2.55E-01		3				
	PER GRASS	42.20	2.11		18	16.74	0.93	0.40	80.38
3	AGSM	5.80	2.90E-01	1.31E+01	11	4.91	0.45	0.85	2.3576E+01
3	BNGR	10.90	5.45E-01	2.47E+01	4	2.71	0.68	0.25	1.3013E+01
3	POSE	18.50	9.25E-01	4.19E+01	18	3.92	0.22	0.21	1.8823E+01
3	SIHY	2.70	1.35E-01	6.11E+00	4	2.21	0.55	0.82	1.0612E+01
3	STCO	4.30	2.15E-01	9.73E+00	6	2.99	0.50	0.70	1.4357E+01
	ANN GRASS	1.60	0.08		11	1.50	0.14	0.94	7.20
5	BRTE	0.40	2.00E-02	9.05E-01	3				
5	VUOC	1.20	6.00E-02	2.71E+00	11				
	ANN FORBS	0.40	0.02		4	0.04	0.01	0.10	0.19
4	PLSP	0.40	2.00E-02	9.05E-01	4				
	TOTAL		15.41	100.00		1.8280E+01			8.7775E+01

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO

137.86

25.18

Shrub production

163.04

Total

250.82

PRECIPITATION DATA

RAIN GAUGE NO. SMILC EXCL

JULY 13/77

OCT. 15 TO APR. 15 = 2.01

APR. 15 TO JULY 1 = 1.90

JULY 1 TO SEPT. 1 = 2.08

SEPT. 1 TO OCT. 15 = .51

SEASON TOTAL = 6.50

LONG TERM AVERAGE = 8.45

No utilization

2009 SMILC EXCL JULY 13/77 OUT NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*ARTR	66.90	3.34E+00		9				
6	*OPPU	20.10	1.00E+00		2				
	PER GRASS	68.10	3.40		19	28.72	1.51	0.42	137.90
3	AGSM	17.60	8.80E-01	2.44E+01	18	11.24	0.62	0.64	5.3971E+01
3	BOGR	26.10	1.30E+00	3.63E+01	5	3.92	0.78	0.15	1.8823E+01
3	POSE	17.70	8.85E-01	2.46E+01	19	4.71	0.25	0.27	2.2616E+01
3	SIHY	1.80	9.00E-02	2.50E+00	2	1.82	0.91	1.01	8.7391E+00
3	STCO	4.90	2.45E-01	6.81E+00	3	7.03	2.34	1.43	3.3756E+01
	ANN GRASS	2.60	0.13		14	3.32	0.24	1.28	15.94
5	VUOC	2.60	1.30E-01	3.61E+00	14				
	ANN FORBS	1.30	0.06		7	0.10	0.01	0.08	0.48
4	PLSP	1.30	6.50E-02	1.81E+00	7				
	TOTAL		7.95	100.00		3.2140E+01			1.5433E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO

69.93
15.97
85.90

Shrub production

Total

240.23

PRECIPITATION DATA

RAIN GUAGE NO. SMILC EXCL.
OCT. 15 TO APR. 15 = 2.01
APR. 15 TO JULY 1 = 1.90
JULY 1 TO SEPT. 1 = 2.08
SEPT. 1 TO OCT. 15 = .51
SEASON TOTAL = 6.50
LONG TERM AVERAGE = 9.45

JULY 13/77

No utilization

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL FRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
6	*OPPO	25.00	1.25E+00		2				
	PER GRASS	35.40	1.77		9	39.26	4.36	1.11	188.51
3	AGSM	5.40	2.70E-01	6.93E+00	9	6.56	0.73	1.21	3.1499E+01
3	ROGR	4.80	2.40E-01	6.16E+00	2	1.03	0.51	0.21	4.9457E+00
3	POSE	6.10	3.05E-01	7.83E+00	8	1.47	0.18	0.24	7.0585E+00
3	SIHY	0.60	3.00E-02	7.70E-01	1	0.28	0.28	0.47	1.3445E+00
3	STCO	18.50	9.25E-01	2.37E+01	6	29.92	4.99	1.62	1.4367E+02
	ANN GRASS	42.50	2.12		20	48.45	2.42	1.14	232.64
5	BITE	39.30	1.96E+00	5.04E+01	20				
5	VUOC	3.20	1.60E-01	4.11E+00	18				
	TOTAL		5.14	100.00		8.7710E+01			4.2116E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR

OPPO

Shrub production

Total

16.91

46.52

63.43

484.59

PRECIPITATION DATA

RAIN GAUGE NO.

SMILC

EXCL

JULY

13/77

OCT. 15 TO APR. 15 = 2.01

APR. 15 TO JULY 1 = 1.90

JULY 1 TO SEPT. 1 = 2.08

SEPT. 1 TO OCT. 15 = .51

SEASON TOTAL = 6.50

LONG TERM AVERAGE = 8.45

Utilization

STCO

Percent of Total Prod

5%

2009 SMILC EXCL

JULY 13/77

OUT SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT HASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
6	*OPPO	24.00	1.20E+00		2				
	PER GRASS	27.40	1.37		15	26.69	1.78	0.97	128.16
3	AGSM	7.70	3.85E-01	1.35E+01	12	17.82	1.46	2.31	8.5566E+01
3	POSE	13.60	6.80E-01	2.38E+01	15	3.64	0.24	0.27	1.7478E+01
3	SIHY	0.40	2.00E-02	6.99E-01	1	0.71	0.71	1.77	3.4092E+00
3	STCO	5.70	2.85E-01	9.97E+00	2	4.52	2.26	0.79	2.1704E+01
	ANN GRASS	29.00	1.45		19	28.87	1.52	1.00	138.62
5	BRTS	21.80	1.09E+00	3.81E+01	19				
5	VUOC	7.20	3.60E-01	1.26E+01	14				
	ANN FORBS	0.80	0.04		5	0.49	0.10	0.61	2.35
4	LARE	0.10	T	1.75E-01	1				
4	PLSP	0.60	3.00E-02	1.05E+00	5				
4	SAKA	0.10	T	1.75E-01	1				
	TOTAL		4.06	100.00		5.6050E+01			2.6913E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	14.89
OPPO	9.02
Shrub production	<u>23.91</u>

Total	<u>293.04</u>
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PRECIPITATION DATA

RAIN GAUGE NO.	SMILC	EXCL
OCT. 15 TO APR. 15 =	2.01	
APR. 15 TO JULY 1 =	1.90	
JULY 1 TO SEPT. 1 =	2.08	
SEPT. 1 TO OCT. 15 =	.51	
SEASON TOTAL =	6.50	
LONG TERM AVERAGE =	8.45	

JULY 13/77

Utilization	Percent of Total Prod.
AGSM	25%
POSE	5%
STCO	10%

1005 SWEET WATER EXCL JULY 29/77 INSIDE ARNO

NUMBER PLOTS = 20

PLOT SIZE 1x1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	39.60	1.98E+00	4.65E+01	3				
6	*ARNO	253.00	1.26E+01		10				
6	*AKTR	8.00	4.00E-01		1				
6	*LEPU	3.60	1.80E-01		2				
6	*TECA	4.70	2.35E-01		2				
	PER GRASS	30.70	1.53		10	18.70	1.87	0.61	89.79
3	AGSM	2.70	1.35E-01	3.17E+00	9	4.69	0.52	1.74	2.2520E+01
3	CAEL	18.60	9.30E-01	2.18E+01	7	6.51	0.93	0.35	3.1259E+01
3	KOCR	4.60	2.30E-01	5.40E+00	10	2.79	0.28	0.61	1.3397E+01
3	STCO	4.80	2.40E-01	5.63E+00	8	4.71	0.59	0.98	2.2616E+01
	PER FORBS	14.90	0.74		15	26.49	1.77	1.78	127.20
2	AST	0.10	T	1.17E-01	1				
2	COPA	13.80	6.90E-01	1.62E+01	15				
2	CRFL	1.00	5.00E-02	1.17E+00	1				
	TOTAL		17.72	100.00		4.5190E+01			2.1699E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARFR	1.08
ARHO	5.81
ARNO	242.05
ASSP	72.21
CHVI	4.92
EROV	1.56
LEPU	0.52
OPPO	0.23
PHHO	64.97
TECA	9.79

PRECIPITATION DATA

RAIN GAUGE NO.	SWEET	WATER	EXCL	JULY	29/77	Shrub Production Total
OCT. 15 TO APR. 15 =	2.77					413.14
APR. 15 TO JULY 1 =	1.47					630.13
JULY 1 TO SEPT. 1 =	3.11					
SEPT. 1 TO OCT. 15 =	.46					
SEASON TOTAL =	7.81					
LONG TERM AVERAGE =	8.81					

No Utilization

1005 SWEET WATER EXCL JULY 29/77 OUTSID ARNO

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT CCMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*ARHO	0.10	T	1.40E-01	1				
1	*PHHO	2.70	1.35E-01	3.79E+00	3				
6	*AKNC	35.00	1.75E+00		6				
6	*ARTR	9.00	4.50E-01		1				
6	*CHVI	4.50	2.25E-01		3				
6	*LEPU	0.20	T		1				
6	*TECA	3.00	1.50E-01		1				
PER GRASS		55.50	2.77		14	50.87	3.63	0.92	244.26
3	AGSM	4.30	2.15E-01	6.03E+00	10	6.74	0.67	1.57	3.2363E+01
3	CAEL	5.80	2.90E-01	8.13E+00	4	1.50	0.37	0.26	7.2025E+00
3	KOCR	6.40	3.20E-01	8.98E+00	10	3.02	0.30	0.47	1.4501E+01
3	POSE	0.50	2.50E-02	7.01E-01	1	0.07	0.07	0.14	3.3612E-01
3	STCO	38.50	1.92E+00	5.40E+01	14	39.54	2.82	1.03	1.8986E+02
PER FORBS		11.20	0.56		3	1.89	0.63	0.17	9.08
2	ARHO2	5.00	2.50E-01	7.01E+00	3				
2	ASSP	5.20	2.60E-01	7.29E+00	3				
2	COPA	0.20	T	2.81E-01	1				
2	CRFL	0.30	1.50E-02	4.21E-01	1				
2	SPCO	0.50	2.50E-02	7.01E-01	1				
ANN FORBS		1.80	0.09		3	0.00	0.00	0.00	0.00
4	PSTE	1.80	9.00E-02	2.52E+00	3				
TOTAL		6.15	100.00			5.2760E+01			2.5334E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARFR	6.15
ARHO	10.32
ARNO	235.46
ASSP	3.17
CHVI	0.99
LEPU	3.30
OPPO	0.58
PHHO	10.49
TECA	6.45
Shrub production Total	276.91
	530.25

PRECIPITATION DATA

RAIN GUAGE NO.	SWEET WATER EXCL	JULY 29/77
OCT. 15 TO APR. 15	=	2.77
APR. 15 TO JULY 1	=	1.47
JULY 1 TO SEPT. 1	=	3.11
SEPT. 1 TO OCT. 15	=	.46
SEASON TOTAL	=	7.81
LONG TERM AVERAGE	=	8.81

No Utilization

1005 SWEET WATER EXCL JULY 29/77 INSIDE ARTR

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT.	AVE. WGT.	WGT./ PLNT	LBS UNIT BASAL AREA	LBS PER AC.
1	*ARHO	0.30	1.50E-02	4.52E-01	1					
1	*PHHO	3.60	1.80E-01	5.43E+00	3					
6	*ARTR	154.00	7.70E+00		8					
6	*CHVI	8.20	4.10E-01		4					
6	*TECA	21.00	1.05E+00		1					
	PER GRASS	56.20	2.81		18	44.52	2.47	0.79	213.77	
3	AGSM	10.20	5.10E-01	1.54E+01	18	11.38	0.63	1.12	5.4643E+01	
3	CAEL	7.50	3.75E-01	1.13E+01	4	3.17	0.79	0.42	1.5221E+01	
3	KOCR	6.80	3.40E-01	1.03E+01	9	4.94	0.55	0.73	2.3720E+01	
3	POSE	0.20	T	3.02E-01	1	0.05	0.05	0.25	2.4008E-01	
3	STCO	31.50	1.57E+00	4.75E+01	12	24.98	2.08	0.79	1.1995E+02	
	PER FORBS	6.20	0.31		5	9.00	1.80	1.45	43.22	
2	AST	1.30	6.50E-02	1.96E+00	3					
2	COPA	3.80	1.90E-01	5.73E+00	5					
2	CEGE	0.60	3.00E-02	9.05E-01	1					
2	PEN	0.50	2.50E-02	7.54E-01	1					
	TOTAL		12.47	100.00		5.3520E+01			2.5699E+02	

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARFR	0.15
ARNO	0.81
ARTR	108.02
CHVI	8.84
EROV	2.90
LEPU	5.60
OPPO	2.27
PHHO	17.09

PRECIPITATION DATA

RAIN GAUGE NO.	SWEET	WATER	EXCL	JULY	29/77	Shrub production Total
OCT. 15 TO APR. 15 =	2.77					145.68
APR. 15 TO JULY 1 =	1.47					402.67
JULY 1 TO SEPT. 1 =	3.11					
SEPT. 1 TO OCT. 15 =	.46					
SEASON TOTAL =	7.81					
LONG TERM AVERAGE =	8.81					

No Utilization

1005 SWEET WATER EXCL JULY 29/77 OUTSID ARTR

NUMBER PLOTS = 20

PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	8.60	4.30E-01	1.02E+01	6				
6	*ARTR	43.00	2.15E+00		3				
6	*CHVI	13.10	6.55E-01		7				
6	*LEPU	10.00	5.00E-01		2				
6	*TECA	2.50	1.25E-01		2				
	PER GRASS	71.60	3.58		17	53.11	3.12	0.74	255.02
3	AGSM	3.40	1.70E-01	4.03E+00	11	6.93	0.63	2.04	3.3276E+01
3	CAEL	13.70	6.85E-01	1.62E+01	6	7.25	1.21	0.53	3.4812E+01
3	KOCR	14.20	7.10E-01	1.68E+01	14	7.22	0.52	0.51	3.4668E+01
3	STCO	40.30	2.01E+00	4.77E+01	17	31.71	1.87	0.79	1.5226E+02
	PER FORBS	4.20	0.21		3	2.23	0.74	0.53	10.71
2	AST	0.70	3.50E-02	8.29E-01	2				
2	CRFL	3.00	1.50E-01	3.55E+00	1				
2	DEGE	0.50	2.50E-02	5.92E-01	3				
	TOTAL		7.65	100.00		5.5340E+01			2.6573E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARFR	5.21
ARTR	184.70
CHVI	11.39
EROV	2.21
LEPU	18.19
PHHO	17.83
TECA	4.84

Shrub production

Total

244.37510.10

PRECIPITATION DATA

RAIN GAUGE NO.	SWEET	WATER	EXCL	JULY	29/77
OCT. 15 TO APR. 15 =	2.77				
APR. 15 TO JULY 1 =	1.47				
JULY 1 TO SEPT. 1 =	3.11				
SEPT. 1 TO OCT. 15 =	.46				
SEASON TOTAL	7.81				
LONG TERM AVERAGE =	8.81				

No Utilization

486
2010

TWO MILE HILL JULY 12/77 INSIDE NATIVE

NUMBER OF PLOTS
COVER = 200; PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER-	PERCENT COMPO-	ABS. PLOT	TOTAL WGT.	AVE. WGT.	WGT./ UNIT	LBS BASAL AC.
		AREA	BASAL	SITION	FREQ.	GMS/ BASE	/PLOT	OCCUR-	
		PER-	AREA		200	SQ.FT.	RENCE		
		CENT							
1	ATGA	723.3	3.62E+00	4.31E+01	80	253.68	3.17	0.35	1.2181E+02
	PER GRASS	805.9	4.03E+00		170	591.01	3.48	0.73	2.8378E+02
3	AGCR	1.0	T	5.96E-02	1	1.25	1.25	1.25	6.0021E-01
3	ORHY	13.5	6.75E-02	8.05E-01	7	14.25	2.04	1.06	6.8424E+00
3	POSE	93.5	4.67E-01	5.58E+00	83	74.28	0.89	0.79	3.5667E+01
3	SIHY	697.9	3.49E+00	4.16E+01	170	501.23	2.95	0.72	2.4068E+02
	PER FORBS	6.10	0.03		8	10.90	1.36	1.79	5.23
2	ALTE	0.5	T	2.98E-02	3				
2	CYMO	0.3	T	1.79E-02	3				
2	MACA	4.7	2.35E-02	2.80E-01	8				
2	MAGL	0.6	T	3.58E-02	4				
	ANN GRASS	139.10	0.70		119	105.55	0.89	0.76	50.68
5	BRJA	63.1	3.15E-01	3.76E+00	119				
5	BRTE	76.0	3.80E-01	4.53E+00	113				
	ANN FORBS	2.60	C.C1		9	1.08	0.12	0.42	0.52
4	HEAN	0.5	T	2.98E-02	5				
4	LARE	1.2	T	7.16E-02	9				
4	LEDE	0.9	T	5.37E-02	8				
	TOTAL		8.4	100.00		9.62220E+02			4.62029E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO

Shrub production

0.18

0.18

Total

462.21

PRECIPITATION DATA

RAIN GAUGE NO.	TWO	MILE	HILL	JULY	12/77
OCT. 15 TO APR. 15 =	3.95				
APR. 15 TO JULY 1 =	3.52				
JULY 1 TO SEPT. 1 =	1.67				
SEPT. 1 TO OCT. 15 =	1.18				
SEASON TOTAL =	10.32				
LONG TERM AVERAGE =	9.60				

No utilization

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT.	AVE. WGT. /PLOT	WGT./ UNIT BASAL AREA	LRS PER AC.
		BASAL AREA	BASAL AREA		BASE 200	GMS/ SQ.FT.	/PLOT RENCES		
1	ATGA	1251.5	6.26E+00	7.87E+01	113	323.08	2.86	0.26	1.5513E+02
	PER GRASS	40.8	2.04E-01		45	16.60	0.37	0.41	7.9708E+00
3	GRHY	3.1	1.55E-02	1.95E-01	7	1.44	0.21	0.46	6.9144E-01
3	POSE	11.1	5.55E-02	6.98E-01	12	1.59	0.13	0.14	7.6347E-01
3	SIHY	26.6	1.32E-01	1.67E+00	45	13.57	0.30	0.51	6.5159E+00
	PER FORKS	33.80	0.17		54	37.93	0.70	1.12	18.21
2	MACA	33.8	1.69E-01	2.13E+00	54				
	ANN GRASS	258.60	1.29		178	207.86	1.17	0.80	99.81
5	BRJE	146.2	9.31E-01	1.17E+01	178				
5	BRJE	72.4	3.62E-01	4.55E+00	110				
	ANN FORKS	5.00	0.02		26	2.74	0.11	0.55	1.32
4	HEAN	1.1	T	6.92E-02	10				
4	LARE	3.1	1.55E-02	1.95E-01	26				
4	LEDE	0.4	T	5.03E-02	7				
	TOTAL		7.9	100.00		5.29210E+02			2.82440E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

OPPO

Shrub production 39.37
39.37

Total 321.81

PRECIPITATION DATA

RAIN GAUGE NO.	TWO	MILE	HILL	JULY	12/77
OCT. 15 TO APR. 15 =	3.95				
APR. 15 TO JULY 1 =	3.52				
JULY 1 TO SEPT. 1 =	1.67				
SEPT. 1 TO OCT. 15 =	1.18				
SEASON TOTAL =	10.32				
LONG TERM AVERAGE =	9.60				

Utilization
POSE
SIHY

Percent of Total Prod.

10%
35%
Total 45%

1005 UPPER GOVT DRAW JULY 29/77 INSIDE NATIVE

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER-	PERCENT COMP-	ABS. PLOT	TOTAL WGT.	AVE. WGT.	WGT./ UNIT	LBS BASAL	PER AC.
		BASAL AREA PER- CENT	CENT BASAL AREA	SITION	FREQ. BASE 20	GMS/20 SQ.FT.	/PLOT OCCUR-	BASAL AREA RENCHES		
1	*PHHO	8.70	4.35E-01	1.00E+01	8					
6	*ARTR	170.00	8.50E+00		15					
	PER GRASS	75.60	3.78		20	53.51	2.68	0.71	256.94	
3	AGSM	21.90	1.09E+00	2.52E+01	20	25.86	1.29	1.18	1.2417E+02	
3	KOCR	42.80	2.14E+00	4.92E+01	12	25.19	2.10	0.59	1.2095E+02	
3	POSE	10.90	5.45E-01	1.25E+01	13	2.46	0.19	0.23	1.1812E+01	
	PER FORBS	2.60	0.13		5	0.85	0.17	0.33	4.08	
2	ARH02	2.30	1.15E-01	2.64E+00	5					
2	CRE	0.30	1.50E-02	3.45E-01	1					
	ANN FORBS	0.10	0.00		1	0.01	0.01	0.10	0.05	
4	PLPA	0.10	T	1.15E-01	1					
	TOTAL		12.85	100.00		5.4370E+01			2.6107E+02	

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO
PHHO271.01
4.45
17.00
292.45
555.52Shrub production
Total

PRECIPITATION DATA

RAIN GUAGE NO.	UPPER	GOVT	DRAW	JULY	29/77
OCT. 15 TO APR. 15	=	3.00			
APR. 15 TO JULY 1	=	1.15			
JULY 1 TO SEPT. 1	=	2.96			
SEPT. 1 TO OCT. 15	=	.40			
SEASON TOTAL	=	7.51			
LONG TERM AVERAGE	=	9.14			

No Utilization

1996 UPPER GOVT DRAW JULY 28/77 OUTSID NATIVE

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
1	*PHHO	14.90	7.45E-01	1.52E+01	10				
6	*ARTR	216.30	1.08E+01		16				
6	*CHVI	4.00	2.00E-01		1				
	PER GRASS	78.90	3.94		20	41.91	2.10	0.53	201.24
3	AGSM	12.60	6.30E-01	1.28E+01	18	12.91	0.72	1.02	6.1990E+01
3	KOCR	26.80	1.34E+00	2.73E+01	14	15.89	1.13	0.59	7.6299E+01
3	POSE	38.50	1.92E+00	3.92E+01	20	11.39	0.57	0.30	5.4691E+01
3	STCO	1.00	5.00E-02	1.02E+00	1	1.72	1.72	1.72	8.2589E+00
	PER FORBS	2.70	0.13		4	1.55	0.39	0.57	7.44
2	CRE	0.70	3.50E-02	7.13E-01	2				
2	SPCO	2.00	1.00E-01	2.04E+00	4				
	ANN FORBS	1.70	0.08		6	0.37	0.06	0.22	1.78
4	PLSP	1.70	8.50E-02	1.73E+00	6				
	TOTAL	15.92		100.00		4.3830E+01			2.1046E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	225.90
OPPO	5.40
PHHO	14.65
Shrub production	245.95
Total	456.41

PRECIPITATION DATA

RAIN GAUGE NO.	UPPER	GOVT	DRAW	JULY	28/77
OCT. 15 TO APR. 15	=	3.00			
APR. 15 TO JULY 1	=	1.15			
JULY 1 TO SEPT. 1	=	2.96			
SEPT. 1 TO OCT. 15	=	.40			
SEASON TOTAL	=	7.51			
LONG TERM AVERAGE	=	9.14			

Utilization	Percent of Total Production
AGSM	7%
KOCR	13%
POSE	20%

1006 UPPER GOVT DRAW JULY 28/77 INSIDE SPRAY

NUMBER PLOTS = 20
PLOT SIZE 1X1

PLANT CODE	PLANT NAME	TOTAL TRANS AREA PER- CENT	AVE. PER- CENT BASAL AREA	PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20	TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
	PER GRASS	105.70	5.28		18	132.91	7.38	1.26	638.19
3	AGCR	4.80	2.40E-01	4.26E+00	3	7.00	2.33	1.46	3.3612E+01
3	AGSM	23.50	1.17E+00	2.09E+01	18	31.28	1.74	1.33	1.5020E+02
3	KOCR	67.20	3.36E+00	5.96E+01	18	91.85	5.10	1.37	4.4104E+02
3	POSE	9.60	4.80E-01	8.52E+00	14	2.78	0.20	0.29	1.3349E+01
3	STCO	0.60	3.00E-02	5.32E-01	1	0.00	0.00	0.00	0.0000
	PER FORHS	3.40	0.17		2	4.72	2.36	1.39	22.66
2	CRE	1.00	5.00E-02	8.87E-01	1				
2	ERPU	1.00	5.00E-02	8.87E-01	1				
2	TRDU	1.40	7.00E-02	1.24E+00	2				
	ANN GRASS	3.60	0.18		12	2.97	0.25	0.82	14.26
5	BRJA	2.50	1.25E-01	2.22E+00	12				
5	BRTE	1.10	5.50E-02	9.76E-01	9				
	TOTAL		5.63	100.00		1.4060E+02			6.7512E+02

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR
OPPO
PHHO

20.59
4.72
.74

Shrub production
Total

26.05
701.17

PRECIPITATION DATA

RAIN GAUGE NO.	UPPER	GOVT	DRAW	JULY	28/77
OCT. 15 TO APR. 15 =	3.00				
APR. 15 TO JULY 1 =	1.15				
JULY 1 TO SEPT. 1 =	2.96				
SEPT. 1 TO OCT. 15 =	.40				
SEASON TOTAL =	7.51				
LONG TERM AVERAGE =	9.14				

No Utilization

1006 UPPER GOVT DRAW JULY 29/77 OUTSID SPRAY

NUMBER PLOTS = 20

PLANT CODE	PLANT NAME	TOTAL TRANS BASAL AREA PER- CENT	AVE. PER- CENT BASAL AREA	PLOT SIZE 1X1		TOTAL WGT. GMS/20 SQ.FT.	AVE. WGT. /PLOT OCCUR- RENCES	WGT./ UNIT BASAL AREA	LBS PER AC.
				PERCENT COMPO- SITION	ABS. PLOT FREQ. BASE 20				
1	*PHHO	7.10	3.55E-01	6.15E+00	3				
6	*ARNO	1.50	7.50E-02		1				
6	*ARTR	33.80	1.69E+00		8				
	PER GRASS	105.50	5.27		20	54.43	2.72	0.52	261.36
3	AGSM	28.50	1.42E+00	2.47E+01	20	22.18	1.11	0.78	1.0650E+02
3	KOCR	19.10	9.55E-01	1.65E+01	9	10.12	1.12	0.53	4.8593E+01
3	POSE	43.10	2.15E+00	3.73E+01	20	14.23	0.71	0.33	6.8328E+01
3	STCO	14.80	7.40E-01	1.28E+01	8	7.90	0.99	0.53	3.7933E+01
	PER FORBS	0.90	0.04		2	0.78	0.39	0.87	3.75
2	ERPU	0.50	2.50E-02	4.33E-01	1				
2	SPOC	0.40	2.00E-02	3.46E-01	2				
	ANN FORBS	2.00	0.10		14	1.26	0.09	0.63	6.05
4	PLSP	2.00	1.00E-01	1.73E+00	14				
	TOTAL		7.54	100.00		5.6470E+01			2.7115E+02

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARTR	77.47
OPPO	1.70
PHHO	12.89
Shrub production	92.06
Total	<u>363.21</u>

PRECIPITATION DATA

RAIN GUAGE NO.	UPPER	GOVT	DRAW	JULY	29/77
OCT. 15 TO APR. 15 =	3.00				
APR. 15 TO JULY 1 =	1.15				
JULY 1 TO SEPT. 1 =	2.96				
SEPT. 1 TO OCT. 15 =	.40				
SEASON TOTAL	7.51				
LONG TERM AVERAGE =	9.14				

Utilization	Percent of Total Production
AGSM	25%
KOCR	32%
POSE	21%
STCO	13%

11 03 NOV 28 RUNSABA...

2006 WEST PASTUR EXCL JULY 07/77 INSIDE NATIVE

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT. GMS/	AVE. WGT. /PLOT	WGT./ UNIT	LBS BASAL AREA	PER AC.
1	*ARPF	45.6	3.28E-01	5.03E+00	10					
1	ATGA	1076.4	5.38E+00	8.25E+01	107	245.06	2.29	0.23	1.1767E+02	
6	AKSP	102.3	5.11E-01		26					
6	*OPPO	221.1	1.11E+00		40					
	PER GRASS	141.9	7.09E-01		88	111.94	1.27	0.79	5.3750E+01	
3	ORHY	40.7	4.03E-01	6.19E+00	88	55.53	0.63	0.69	2.6664E+01	
3	POSE	22.2	1.11E-01	1.70E+00	40	6.63	0.17	0.30	3.1835E+00	
3	SIHY	36.7	1.83E-01	2.81E+00	41	47.63	1.16	1.30	2.2870E+01	
3	SPA1	2.3	1.15E-02	1.76E-01	7	2.15	0.31	0.93	1.0324E+00	
	PER FORBS	16.80	0.08		46	14.31	0.31	0.85	6.87	
2	ALTE	10.2	5.10E-02	7.82E-01	46					
2	CYMO	6.6	3.30E-02	5.06E-01	38					
	ANN FORBS	3.80	0.02		12	1.79	0.15	0.47	0.86	
4	LARE	1.5	T	1.15E-01	11					
4	LEDE	0.1	T		1					
4	MATA	0.9	T	6.90E-02	8					
4	PLSP	1.3	T	9.97E-02	12					
	TOTAL		8.1	100.00		3.85820E+02			1.79151E+02	

* NOT COMPUTED IN PERCENT COMPOSITION

T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARPE	24.38
ARSP	4.97
OPPO	56.70
Shrub production	86.05
Total	265.20

PRECIPITATION DATA

RAIN GAUGE NO.	WEST	PASTUR EXCL	JULY	07/77
OCT. 15 TO APR. 15	=	.97		
APR. 15 TO JULY 1	=	1.82		
JULY 1 TO SEPT. 1	=	1.61		
SEPT. 1 TO OCT. 15	=	.31		
SEASON TOTAL	=	4.71		
LONG TERM AVERAGE	=	5.54		

No Utilization

2006 WEST PASTUR EXCL JULY 07/77 OUTSID NATIVE

NUMBER OF PLOTS
COVER = 200, PRODUCTION = 20
PLOT SIZE 1 FT. X 10 FT.

PLANT CODE	PLANT NAME	TOTAL TRANS	AVE. PER- CENT	PERCENT COMPO- SITION	ABS. PLOT FREQ.	TOTAL WGT.	AVE. WGT. /PLOT	WGT./ UNIT	LBS BASAL AC.
		BASAL AREA PER- CENT	BASAL AREA		BASE 200	GMS/ SQ.FT.	OCCUR- RENCES		
1	*ARPE	1019.3	5.10E+00	6.12E+01	121				
1	ATGA	562.4	2.81E+00	3.37E+01	75	147.41	1.97	0.26	7.0782E+01
6	ARSP	3.0	1.50E-02		2				
6	*OPPO	109.0	5.45E-01		18				
	PER GRASS	83.7	4.18E-01		53	30.72	0.58	0.37	1.4751E+01
3	ORHY	31.1	1.55E-01	1.87E+00	53	13.80	0.26	0.44	6.6263E+00
3	POSE	7.2	3.60E-02	4.32E-01	12	2.01	0.17	0.28	9.6514E-01
3	SIHY	43.5	2.17E-01	2.61E+00	53	13.98	0.26	0.32	6.7128E+00
3	SPAL	1.9	T	1.14E-01	2	0.93	0.46	0.49	4.4656E-01
	PER FORBS	0.90	0.00		5	0.42	0.08	0.47	0.20
2	ALTE	0.6	T	3.60E-02	5				
2	CYMO	0.3	T	1.80E-02	3				
	ANN FORBS	0.30	0.00		1	0.19	0.19	0.63	0.09
4	LARE	0.1	T		1				
4	PLSP	0.2	T	1.20E-02	1				
	TOTAL		8.9	100.00		1.79750E+02			8.58255E+01

* NOT COMPUTED IN PERCENT COMPOSITION
T - TRACE

PRODUCTION ESTIMATES OF SHRUBS AND WOODY MAT FORM PLANTS

ARPE	23.41
ARSP	0.26
OPPO	7.97
Shrub production	31.64
Total	117.47

PRECIPITATION DATA

RAIN GAUGE NO.	WEST	PASTUR EXCL	JULY	07/77
OCT. 15 TO APR. 15 =	.97			
APR. 15 TO JULY 1 =	1.82			
JULY 1 TO SEPT. 1 =	1.61			
SEPT. 1 TO OCT. 15 =	.31			
SEASON TOTAL =	4.71			
LONG TERM AVERAGE =	5.54			

No Utilization

DATE RETURNED	OFFICE

(Continued on reverse)

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